NEW EDITION

KNOTS

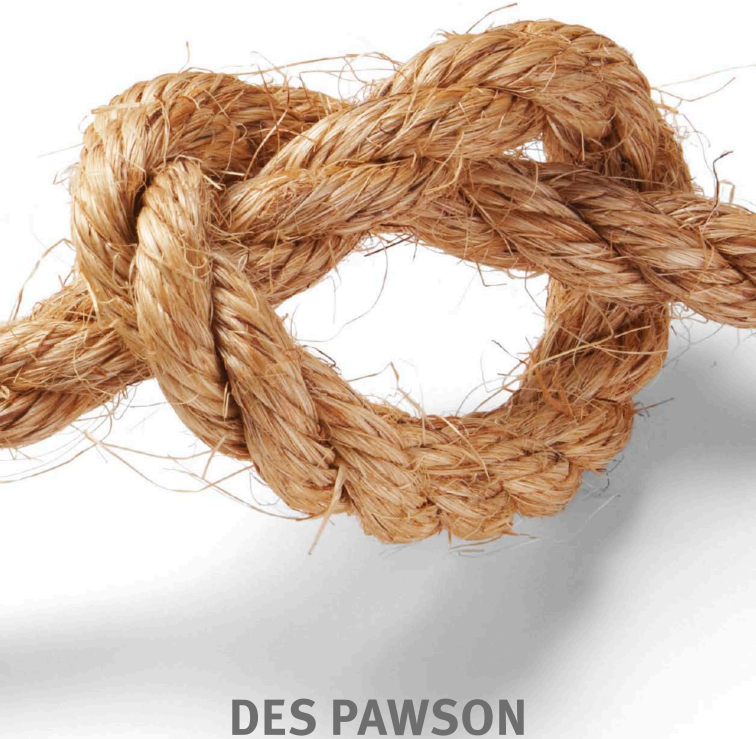
STEP BY STEP

A PRACTICAL GUIDE
TO TYING & USING
OVER 100 KNOTS

DES
PAWSON

KNOTS

STEP BY STEP



DES PAWSON

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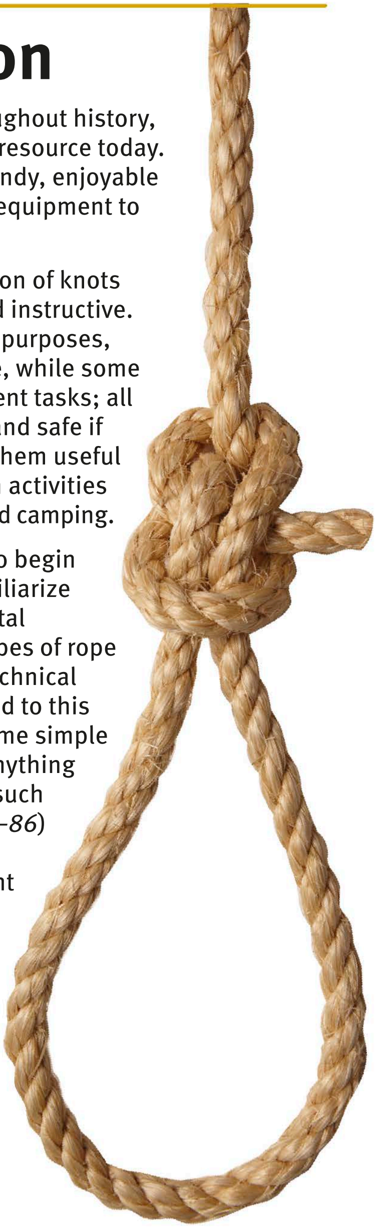
Introduction



Knots have been used throughout history, and they remain a valuable resource today. Learning to tie knots is a handy, enjoyable skill, requiring only simple equipment to get started.

This book contains a selection of knots intended to be practical and instructive. Many of them have specific purposes, others are purely decorative, while some can be used for many different tasks; all of them should be reliable and safe if tied correctly. You will find them useful in everyday life as well as in activities such as climbing, sailing, and camping.

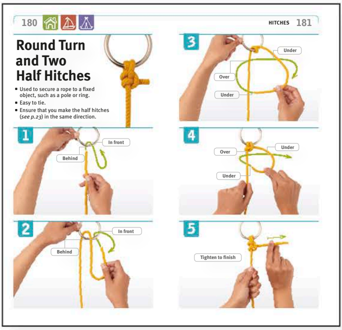
As with any skill, it is best to begin by learning the basics. Familiarize yourself with the fundamental techniques, the different types of rope and their uses, and a few technical terms. Use the rope attached to this book to experiment with some simple knots before you attempt anything complicated; classic knots such as the Reef Knot (*see pp.85–86*) and the Overhand Knot (*see pp.28–29*) are both excellent places to begin.

When learning to tie new knots, don’t rush – pause regularly to make adjustments as needed and above all, have fun!

Des Pawson

About this Book

Read the brief description at the start of each chapter to work out which type of knot you need, then use the icons and text at the beginning of each knot to refine your search. Once you have found the knot you are looking for, follow the step-by-step instructions to learn how it is tied. This book also contains information on rope and tools, and the best knots for activities such as sailing and climbing.



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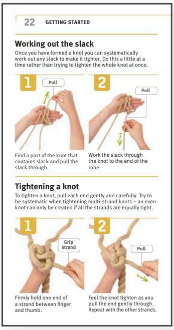
Round Turn and Two Half Hitches

- Used to secure a rope to a fixed object, such as a pole or ring.
- Easy to tie.
- Ensure that you make the half hitches (*see p.23*) in the same direction.

Step-by-step knot sequence
Opening with an overview of the function and characteristics of the knot, these pages use step-by-step photography, accompanied by clear instructions, to demonstrate how the knot is tied.



22 GETTING STARTED

Working out the slack

Once you have formed a knot you can systematically work out any slack to make it tighter. Do this a little at a time rather than trying to tighten the whole knot at once.

1 Find a part of the knot that contains slack and pull the slack through.

2 Work the slack through the knot to the end of the rope.

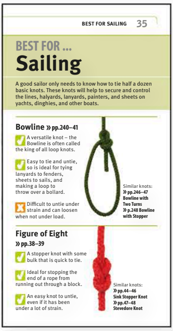
Tightening a knot

To tighten a knot, pull each end gently and carefully. Try to be systematic when tightening multi-strand knots – an even knot can only be created if all the strands are equally tight.

1 Firmly hold one end of a strand between finger and thumb.

2 Feel the knot tighten as you pull the end gently through. Repeat with the other strands.

Getting started
This section outlines the equipment and basic techniques needed to tie the knots featured in this book.



BEST FOR SAILING 35

BEST FOR ...
Sailing

A good sailor only needs to know how to tie half a dozen basic knots. These knots will help to secure and control the lines, halyards, lanyards, painters, and sheets on yachts, dinghies, and other boats.

Bowline » pp.240–41

✓ A versatile knot – the Bowline is often called the king of all loop knots.

✓ Easy to tie and untie, so is ideal for tying lanyards to fenders, sheets to sails, and making a loop to throw over a bollard.

✗ Difficult to untie under strain and can loosen when not under load.

Similar knots:
» pp.246–47 Bowline with Two Turns
» p.248 Bowline with Stopper

Figure of Eight » pp.38–39

✓ A stopper knot with some bulk that is quick to tie.

✓ Ideal for stopping the end of a rope from running out through a block.

✓ An easy knot to untie, even if it has been under a lot of strain.

Similar knots:
» pp.44–46 Sink Stopper Knot
» pp.47–48 Stevedore Knot

Best for...
These feature pages profile the six best knots for specific activities such as gardening or fishing.

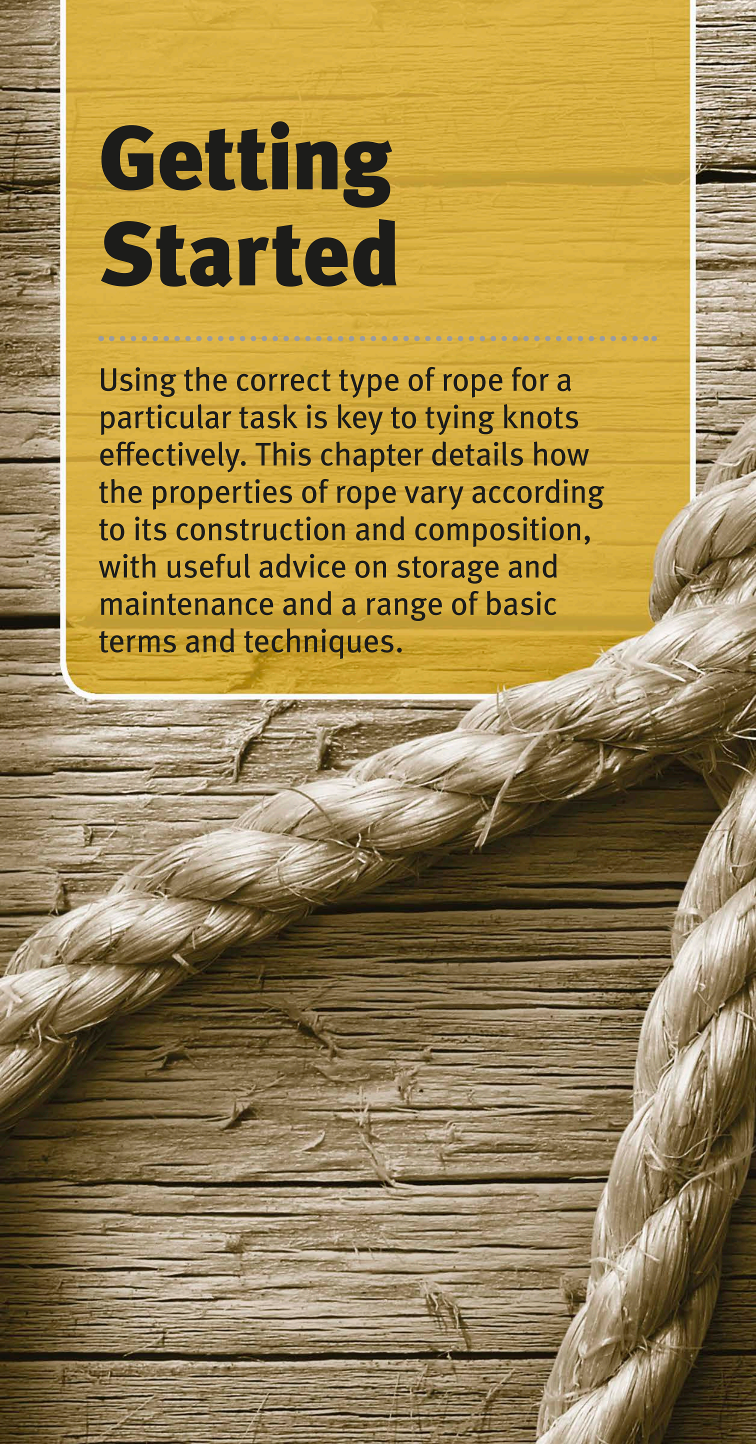
Icons

The activities for which each knot can be used are indicated by these icons:

⌂	**General**
🐟	**Fishing**
▲	**Climbing**
⛵	**Sailing**
⛺	**Camping**
✿	**Decorative**

Getting Started

Using the correct type of rope for a particular task is key to tying knots effectively. This chapter details how the properties of rope vary according to its construction and composition, with useful advice on storage and maintenance and a range of basic terms and techniques.

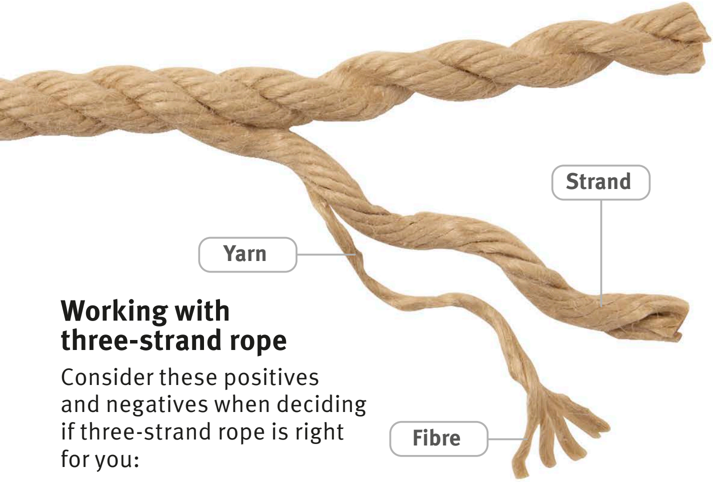


Rope Construction

The rope-making process involves fibre being spun into yarn. The yarn is then twisted into large strands or braided, sometimes around a core. The qualities of a rope are partly determined by this process.

Three-strand rope

Rope with three strands is made by twisting fibres into yarns, then twisting the yarns together into strands. Three of the strands are then twisted into rope. At each stage the direction of the twist is opposite to that of the stage before: this creates the friction that holds all the strands together.



Working with three-strand rope

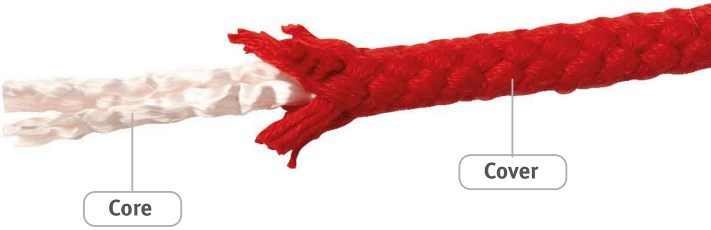
Consider these positives and negatives when deciding if three-strand rope is right for you:

- ✓ Firm and flexible.
- ✓ Easy to splice (*see pp.334–63*).
- ✓ Perfect for rigging traditional sailing vessels.
- ✓ A good choice for decorative knotting.

- ✗ Strands will untwist unless the ends are whipped (*see p.14*) to stop them from fraying.
- ✗ Kinks easily while being coiled.
- ✗ May have too much stretch for some tasks.

Braided rope

The most common type of this rope has a braided cover with a core of woven or twisted yarn made from synthetic fibres. The fibres in the core and the cover are not always the same. Many braided ropes are developed for specialized purposes.



Working with braided rope

Consider these positives and negatives when deciding if braided rope is right for you:

✓ Has a smooth feel and good flexibility.

✓ Suitable for a variety of purposes.

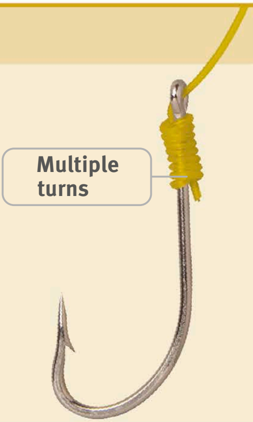
✓ Has less stretch and less tendency to kink than three-strand rope.

✓ Reliable in situations where safety is paramount, such as mountaineering and climbing.

✗ Difficult to splice. Some braided rope cannot be spliced at all.

Fishing Line

- Fishing line is usually thin and slippery – you may need to use special knots, often with many turns (*see p.274*), when working with it.
- To help bed the turns into place, moisten the line prior to working it tight. This will make the knot difficult to untie.



Rope Materials

Until the second half of the 20th century all rope was made from natural plant fibres. Since then, however, synthetic fibres have taken over, and now most rope is manufactured from synthetic materials.

Natural rope

The most common natural fibres in use today are cotton, sisal, and manila. They are aesthetically pleasing but tend to decay quickly and wear out faster than synthetic fibres.

Cotton

Fibres of cotton grow around the seeds of the plant. They can be used to make soft, smooth ropes.

- Stretchy and soft to touch.
- Used mainly for decorative purposes.
- Commonly used for animal halters.

Sisal

Fibres of sisal are stiff and come from the agave plant.

- Inexpensive and fairly coarse.
- Holds knots well.
- Can be treated with a waterproofing agent, making it suitable for exposure to moisture.

Manila

Fibres of manila come from the abaca plant.

- One of the strongest natural ropes.
- Less susceptible to decay than sisal and cotton.

Synthetic rope

Synthetic fibres are stronger than natural fibres and are resistant to decay. The most common synthetics used for making rope are polypropylene, polyester, and nylon. Racing Yachts may also use exotics such as Kevlar, Dyneema®, and HMPE (beyond the scope of this book).

Polypropylene

Polypropylene is low-cost and varied in form.

- Has a tendency to break down in sunlight – needs to be treated against ultraviolet rays.
- More liable to chafe than other synthetic fibres.
- Floats in water.
- Slightly slippery – needs to be tied with a secure knot.

Polyester

Polyester is one of the best ropes for outdoor use.

- Wears well – resistant to chafing and sunlight.
- As strong as nylon but has less stretch.
- Can be purchased pre-stretched, meaning there will be minimal stretch during use.

Nylon

Nylon fibres were the first synthetic material to be used for making rope.

- Has a degree of stretch – particularly good for absorbing shock loads.
- Good for making ropes used for mooring boats and climbing.
- Tends to stiffen over time.
- Resists the ultraviolet rays in sunlight better than polypropylene, but not as well as polyester.

Rope Maintenance

Good rope maintenance will preserve the strength of a rope and increase its life span. If the rope is being used for activities that carry an element of risk, such as climbing or abseiling, rope maintenance is an essential safety procedure.

Binding ends

Unless they are bound in a process called whipping, the ends of three-strand and braided rope will unravel and fray. The ends of a rope can be finished with either a temporary whippingor a permanent twine whipping.

Permanent whipping

Bear in mind the following points when making a permanent whipping:

- Whipping should be at least one and a half times the diameter of the rope.

Whipping twine

- A Common Whipping (*see pp.374–75*) is quick to make and suitable for three-strand and braided rope.
- The Sailmaker's Whipping (*see pp.379–82*) is suitable for three-strand rope.
- For braided rope, a Palm and Needle Whipping (*see pp.383–86*) is used to bind the core and cover together.

Temporary whipping

If there is not enough time to make a permanent whipping, a temporary whipping can be used. The following methods are all suitable for making a temporary whipping:

Self-adhesive tape

- Self-adhesive tape wrapped around the rope.
- A Constrictor Knot (*see pp.109–10*) tied with thin twine.
- A small amount of quick-drying glue applied to the end of the rope.
- Melting the end of synthetic rope. Be careful to avoid burning your fingers.

Rope care

Ropes should be kept free from wear and tear, such as chafing caused by constant rubbing of the fibres against hard or rough surfaces.

Looking after rope

The following tips will help you to keep your rope in good condition:

- To prevent chafing, fix some plastic tubing (*see right*) over parts of the rope that are in constant contact with a rough surface.

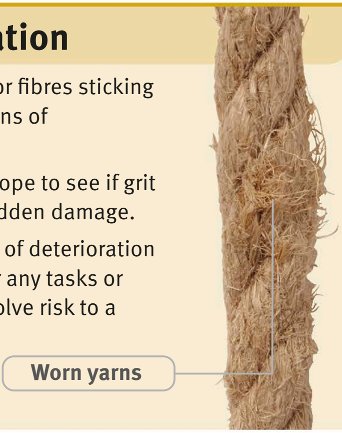
Plastic tubing

Brush the rope

- If the rope does become worn, avoid putting it under any strain.
- Clean dirty rope with a scrubbing brush (*see left*), using water and washing-up liquid. Afterwards, coil the rope (*see pp.16–17*) and hang it up to dry.
- Rope made from natural fibres should never be stored when it is wet because it will quickly decay.

Rope deterioration

- Worn or broken yarns or fibres sticking out from a rope are signs of deterioration.
- Untwist the lay of the rope to see if grit or sand are causing hidden damage.
- Rope that shows signs of deterioration should not be used for any tasks or activities that may involve risk to a person or property.



Storing Rope

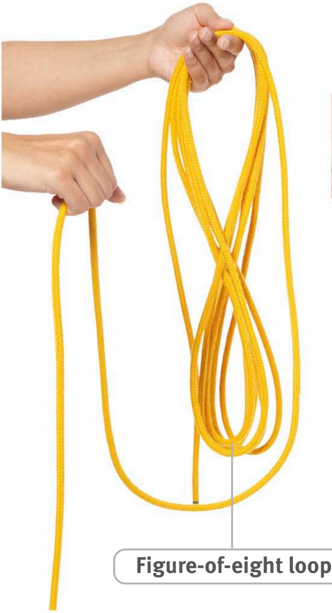
When you are not working with your rope, coil it up neatly to prevent it from becoming tangled and then hang it in a dry place. Make sure natural-fibre rope is completely dry before you store it away.

Coiling rope

Coil rope carefully into loops with even turns that follow the twists of the rope's construction. Use some thin line to hold the loops together so the coiling cannot be disturbed.

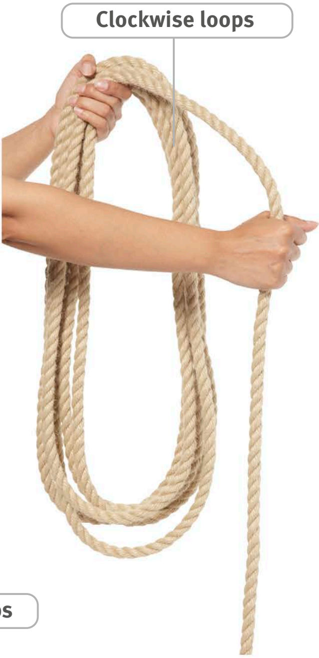
Braided rope

Coil braided rope into figure-of-eight loops to balance the left- and right-hand twists of its strands.



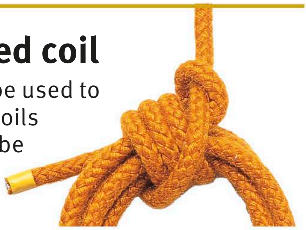
Three-strand rope

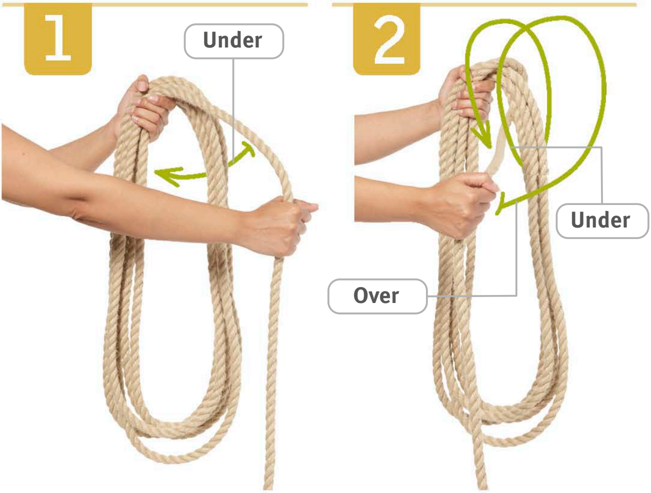
Coil three-strand rope into loops in a clockwise direction.



Making a self-stopped coil

The working end of a rope can be used to make a stopper that holds the coils together. The stopper can then be used to hang up the rope.

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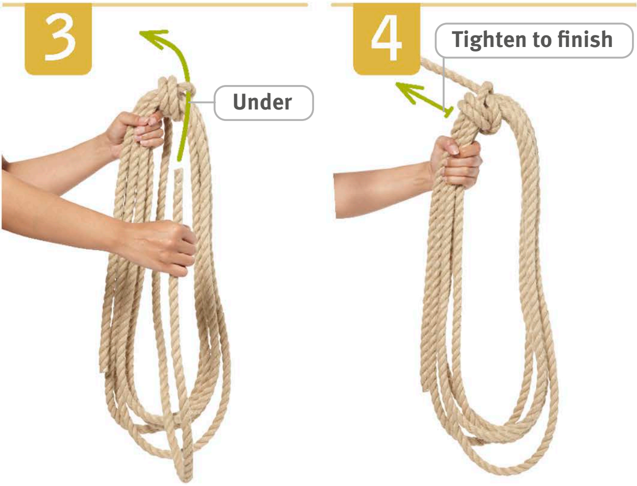
Under
2
Under
Over

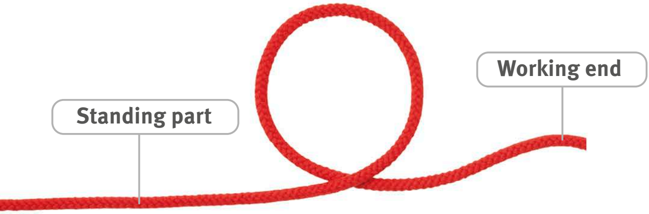

3
Under
4
Tighten to finish

Terms and Tools

To tie the knots in this book, all you need to know are a few important terms, and how to use certain specialist tools that will help you with some of the more complex tasks.

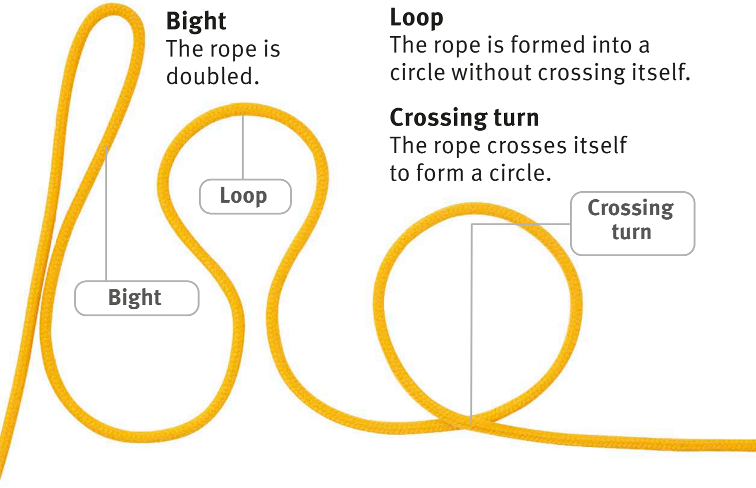
Ends of the rope

The end of the rope that you actively use to make a knot is called the working end. The other end is inactive and is known as the standing part.



Shaping the rope

You can bend a rope into shapes such as a bight, loop, and crossing turn, to help create different knots.



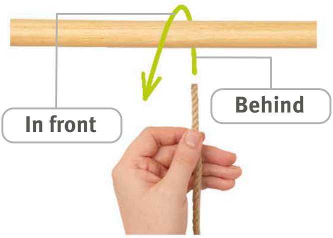
Bight
The rope is doubled.

Loop
The rope is formed into a circle without crossing itself.

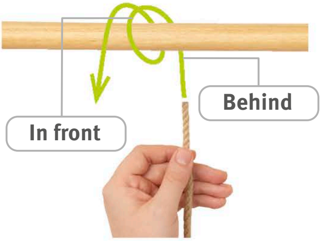
Crossing turn
The rope crosses itself to form a circle.

Turns around an object

When you pass the working end of a rope around another rope, or around an object, the manoeuvre is described as making a turn.



Turn
A turn is a single pass of the rope around an object. It is also known as a single turn.

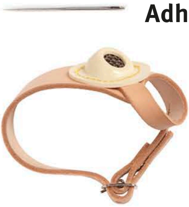


Round turn
A round turn is two turns, or passing the rope twice, around the object.

Useful tools

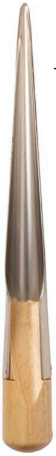
A few simple but specialized tools will help to make working with rope considerably easier. These tools are available from chandlery stores or on the Internet.

Sailmaker's palm and needle
A reinforced glove and heavy needle. The glove makes it easier to push the needle through thick rope.

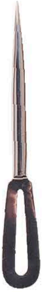


Adhesive tape
For quick, temporary whippings.

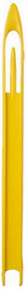
Sharp knife
Essential for cutting or trimming rope.



Swedish fid
The hollow blade makes it easier to tuck rope when splicing.



Marlinespike
An all-metal tool used for separating the strands of a knot.



Netting needle
For working with thin line when making nets.

Techniques

Some basic knot-tying techniques will provide you with the fundamental skills to make both simple and complicated knots in a quick and easy fashion.

Estimating rope length

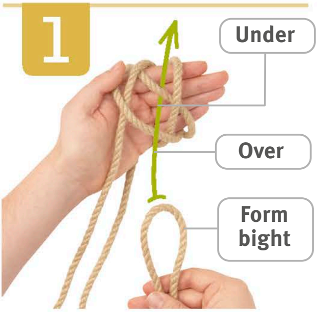
To estimate how much rope is needed for a knot make a dummy with loose turns, leaving out the actual tucks. It is better to over-estimate how much rope is required rather than run out of cord.

Loose turns

Working with a long length of rope

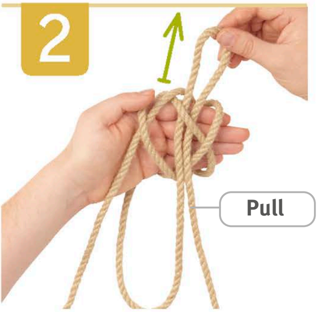
More complex knots will require a long length of rope. Rather than attempting to manipulate an unwieldy working end, simply form a bight (*see p.18*).

1



Form the working end into a bight by folding it back on itself before tucking.

2



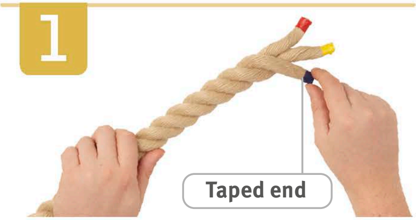
After tucking the bight, pull the rest of the working end through.

Unlaying and laying rope

Some knots and most splices (*see pp.334–63*) are made with the strands of the rope, rather than the whole rope. You can unlay these by opening them up or lay them to remake the rope.

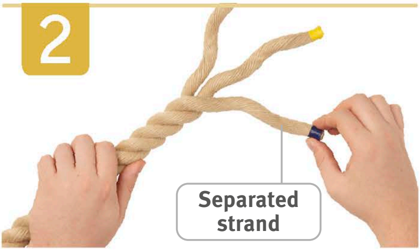
Unlaying a rope

1



Tape the end of each strand as you unlay it, making sure you keep the twist in the strand intact.

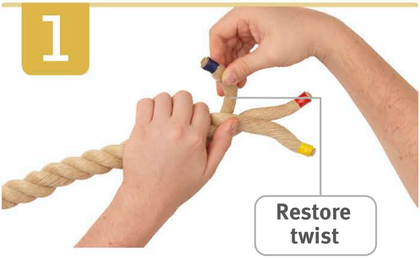
2



Separate the strands by gently untwisting each one from the body of the rope.

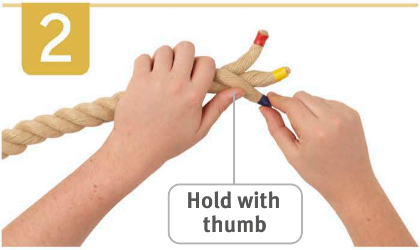
Laying a rope

1



When relaying an unlaid piece of rope, try to restore the original twist in each strand to hold them together.

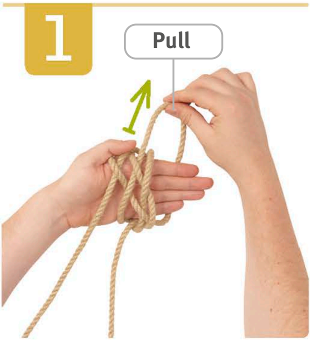
2



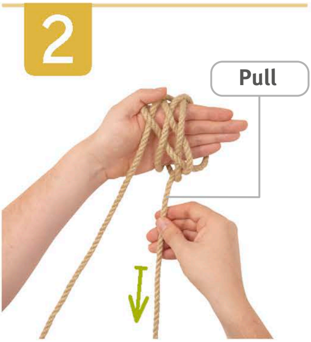
Force the strand into place with your thumb before moving on to the next strand.

Working out the slack

Once you have formed a knot you can systematically work out any slack to make it tighter. Do this a little at a time rather than trying to tighten the whole knot at once.



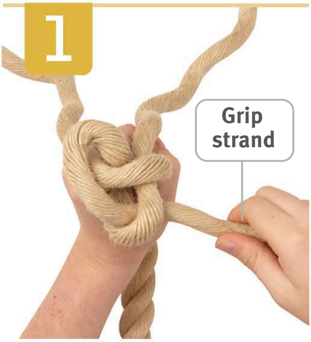
Find a part of the knot that contains slack and pull the slack through.



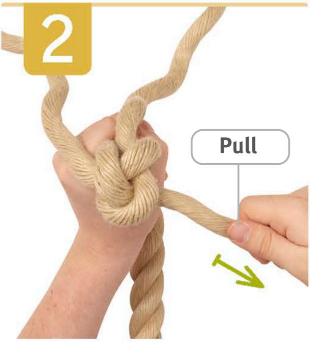
Work the slack through the knot to the end of the rope.

Tightening a knot

To tighten a knot, pull each end gently and carefully. Try to be systematic when tightening multi-strand knots – an even knot can only be created if all the strands are equally tight.



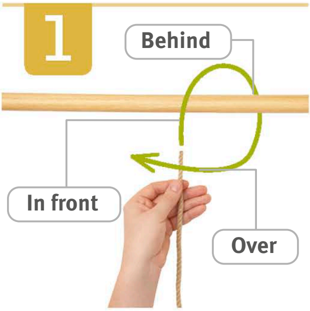
Firmly hold one end of a strand between finger and thumb.



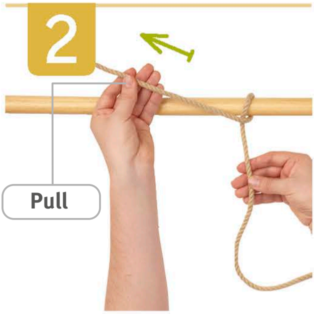
Feel the knot tighten as you pull the end gently through. Repeat with the other strands.

Forming a half hitch

A half hitch is a simple manoeuvre that is one of the building blocks of knot tying. Usually, half hitches are made around an object, such as a pole, or another rope.



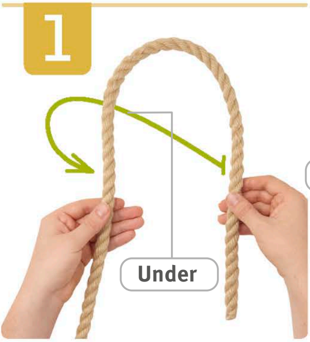
Make a half hitch by taking the rope once around the object you are securing it to.



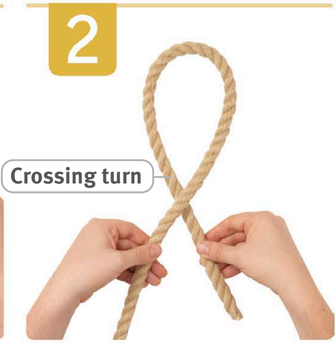
Lock the half hitch in place by passing one end of the rope across the other end.

Forming a crossing turn

A crossing turn, like a half hitch, is the basis of many knots. It can be formed by rolling the rope between the finger and thumb of one hand so that it twists over or under itself to form a loop.



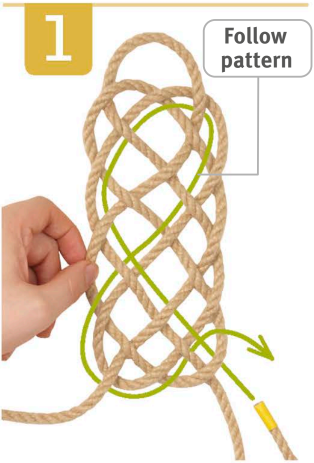
Roll the part of the rope that is to lie under the turn between the thumb and fingers.



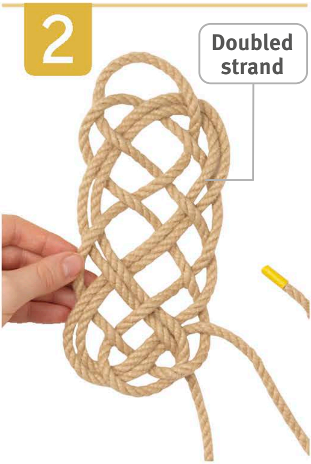
The rope will twist under itself to form the crossing turn.

Doubling up

Knots can often be doubled – or even tripled – by replicating the original pattern with additional strands. These should follow the path of the first strand without crossing it.



Create the first pattern of the knot, making sure there is enough space for the second pass. Follow around with the second strand.



Ensure that the doubling strand does not cross the original strand. Some knots can be tripled or even quadrupled.

Trimming the ends

When you have finished a knot, a splice, or a whipping, you will probably have some loose ends. Cut off these surplus ends with a sharp knife.

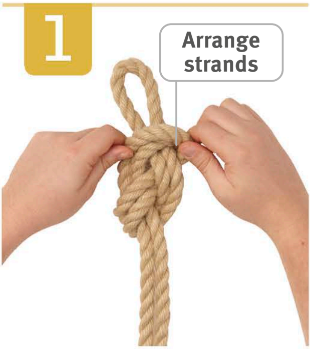
Not too close

Do not trim an end too close to the body of the knot or the splice, as it may pull out when put under strain.

Working into shape

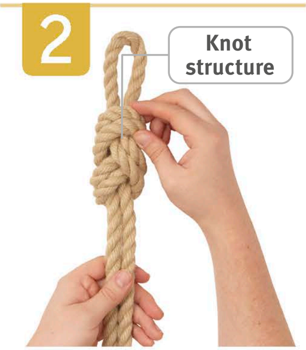
A knot will probably need to be coaxed into a neat and even shape. This process is known as dressing a knot. A knot that is tidy is likely to be stronger and more secure.

1



Working with your fingers and thumbs, push and pull the strands into shape. Turns may need to be twisted tight.

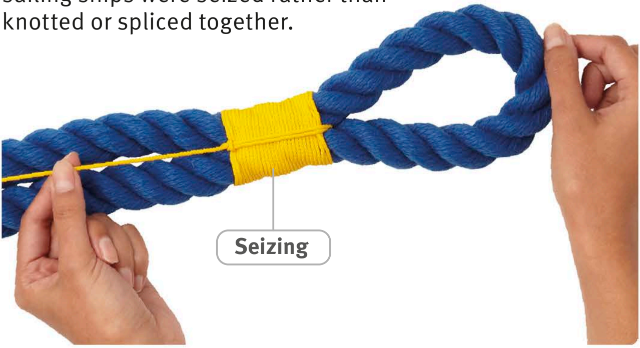
2



Ensure the strands of the rope sit neatly alongside each other, emphasizing the knot’s structure and increasing effectiveness.

Seizing

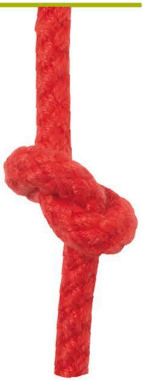
Seizing involves using small line to bind together two parts of a larger rope or two or more larger ropes positioned side by side. Historically, the fixed rigging on sailing ships were seized rather than knotted or spliced together.



Stopper Knots

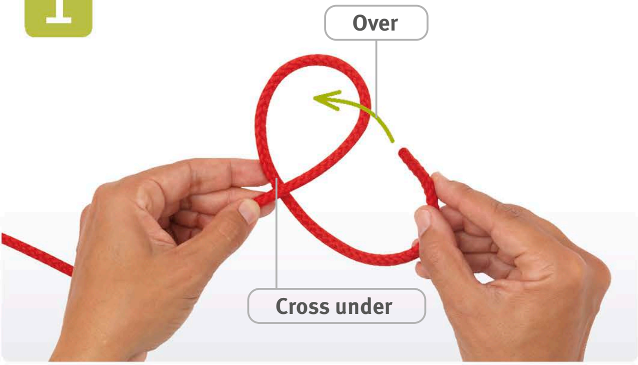
Stopper knots are used to stop a rope fraying or unravelling, or to prevent it from being pulled through a hole or block. Some stopper knots are tied with just the strands of the rope, but most are tied with the whole rope.

Overhand Knot

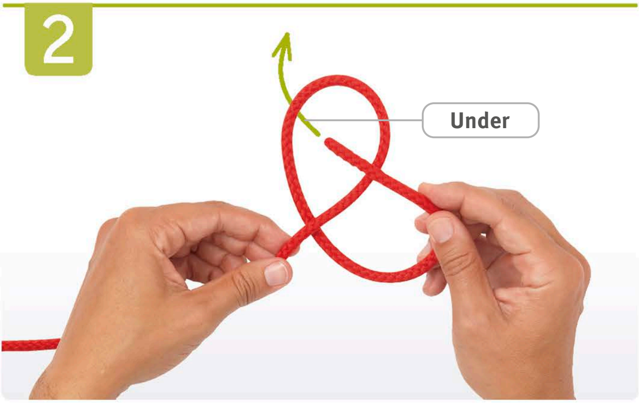


- The simplest of all knots.
- The basis of knots in the bend and loop families.
- Difficult to untie when tightened.
- Also known as the Thumb Knot.

1


Over
Cross under

2



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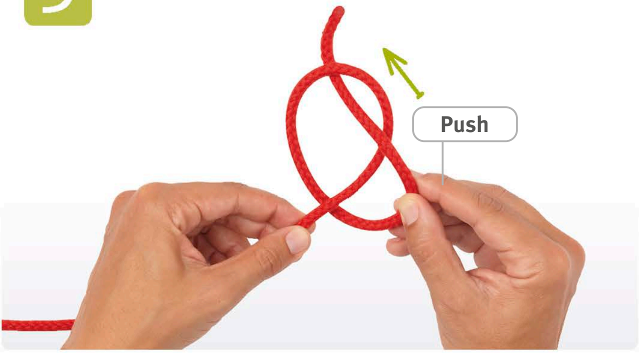
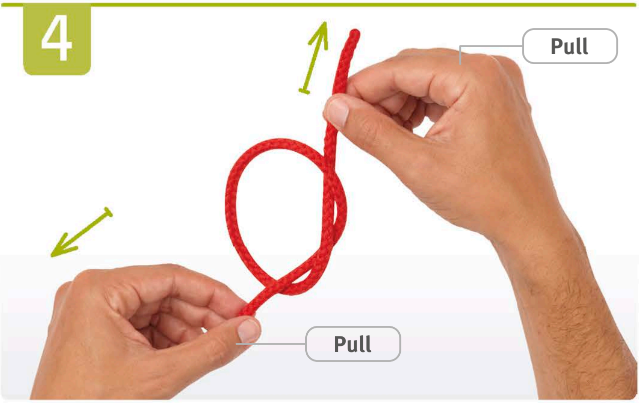


Push

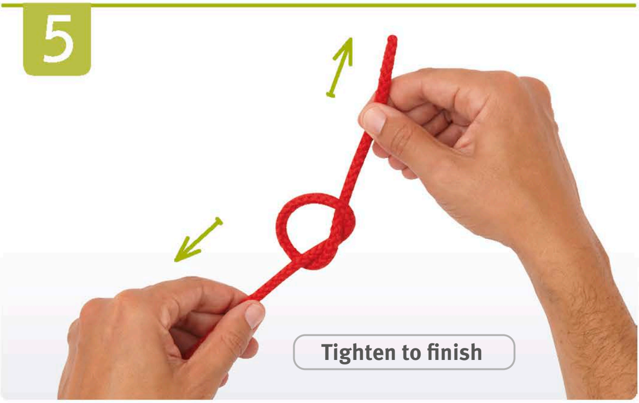
4



Pull

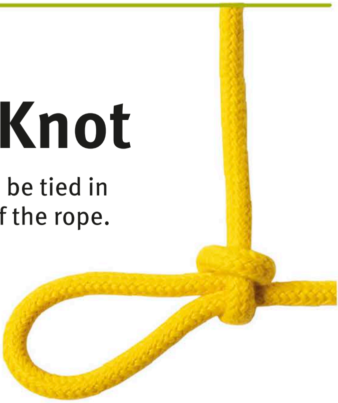
Pull

5



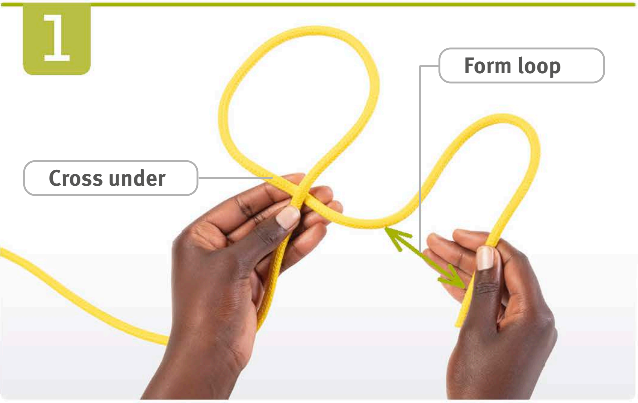
Tighten to finish

Slipped Overhand Knot

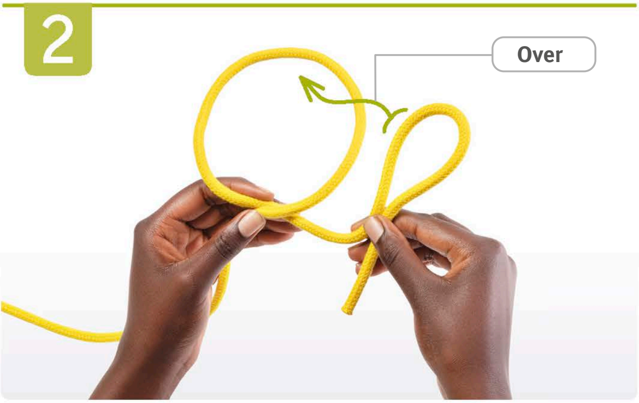


- A simple slipknot that can be tied in the middle or at the end of the rope.
- Easier to untie than the Overhand Knot (*see pp.28–29*).
- Untie by pulling on the short end of the loop.

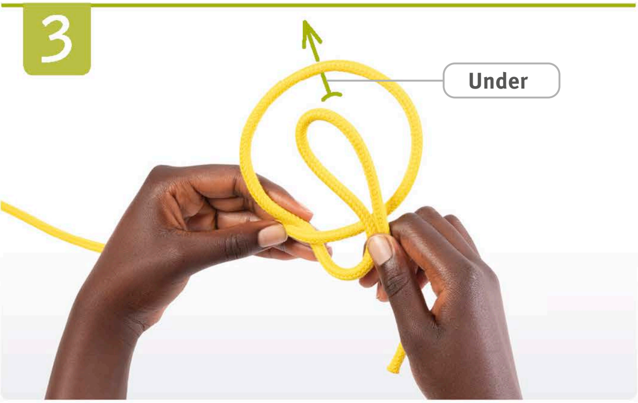
1


Form loop
Cross under

2

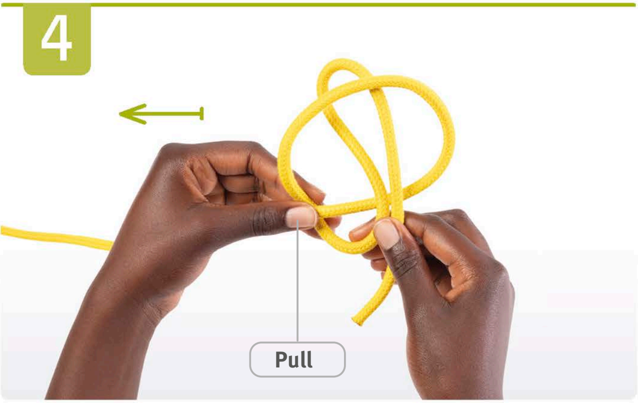


3



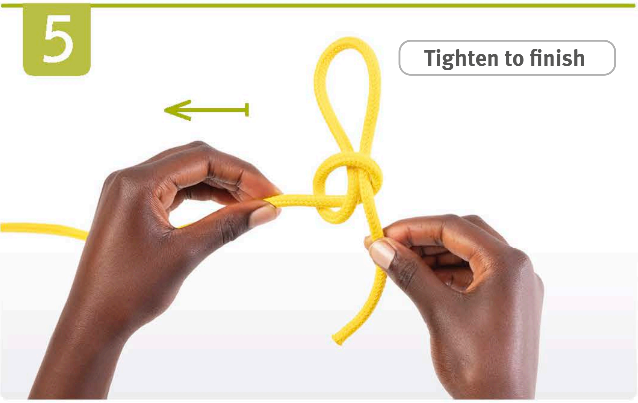
Under

4



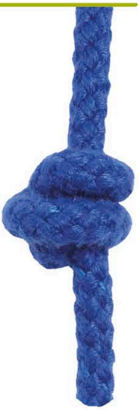
Pull

5



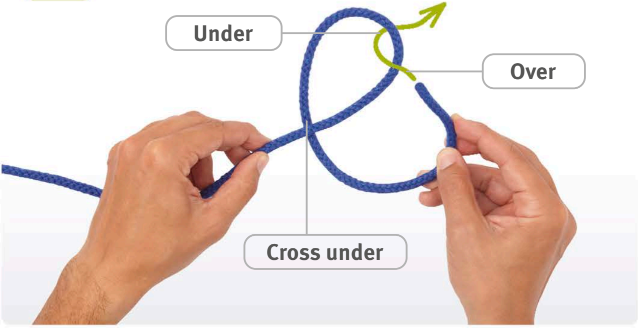
Tighten to finish

Double Overhand Knot

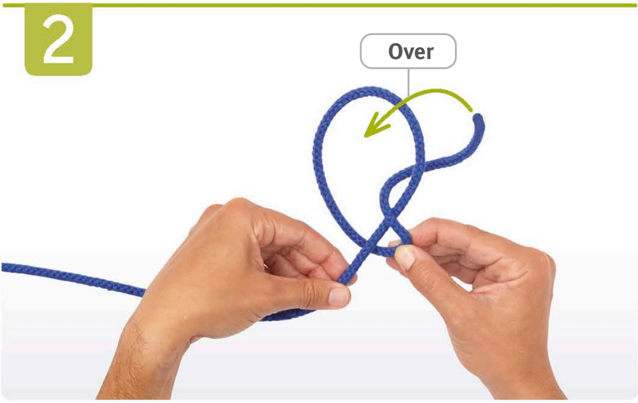


- A secure stopper knot that is difficult to untie.
- Bulkier than the Overhand Knot (*see pp.28–29*).
- Can be made larger by adding extra turns.

1


Under
Over
Cross under

2



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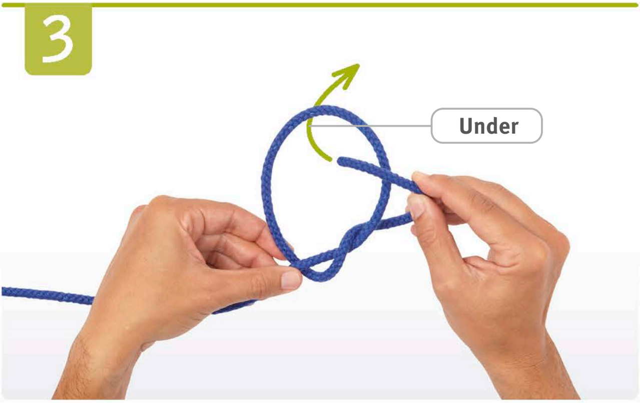

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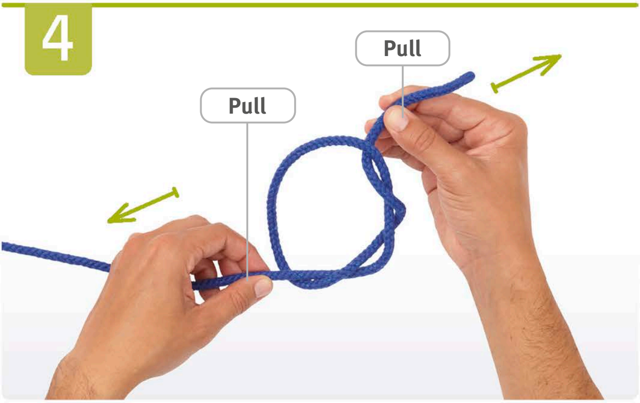

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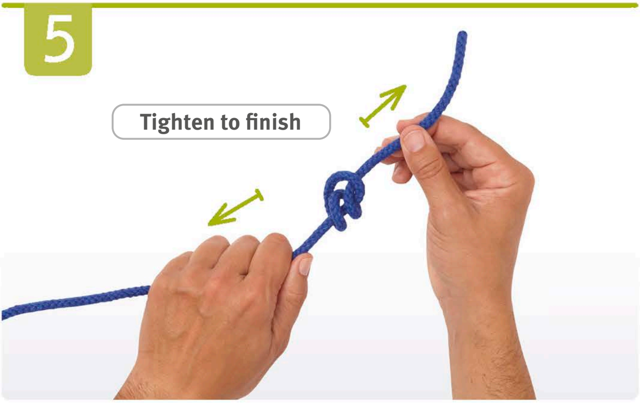

Tighten to finish

HONOUR

BEST FOR ...

Sailing

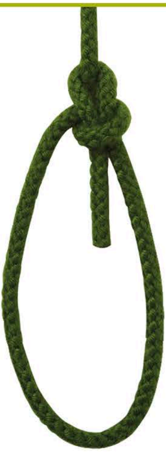
A good sailor only needs to know how to tie half a dozen basic knots. These knots will help to secure and control the lines, halyards, lanyards, painters, and sheets on yachts, dinghies, and other boats.

Bowline » pp.240–41

✓ A versatile knot – the Bowline is often called the king of all loop knots.

✓ Easy to tie and untie, so is ideal for tying lanyards to fenders, sheets to sails, and making a loop to throw over a bollard.

✗ Difficult to untie under strain and can loosen when not under load.



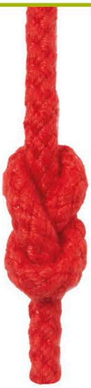
Similar knots:
» pp.246–47 Bowline with Two Turns
» p.248 Bowline with Stopper

Figure of Eight » pp.38–39

✓ A stopper knot with some bulk that is quick to tie.

✓ Ideal for stopping the end of a rope from running out through a block.

✓ An easy knot to untie, even if it has been under a lot of strain.



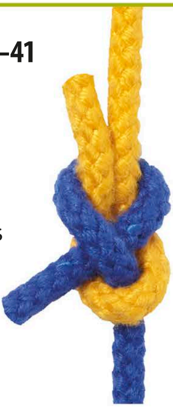
Similar knots:
» pp.44–46 Sink Stopper Knot
» pp.47–48 Stevedore Knot

Sheet Bend » pp.140–41

✓ A quick and easy method of joining two ropes together.

✓ A Double Sheet Bend can be used to tie ropes of different diameters together securely.

X Not suitable for joining ropes of different sizes.



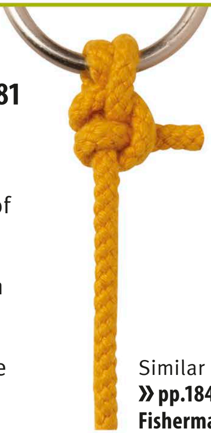
Similar knots:
» pp.142–43 Tucked Sheet Bend
» pp.144–45 Double Sheet Bend

Round Turn and Two Half Hitches » pp.180–81

✓ Perfect for tying a rope to a mooring post or ring, as the round turn takes much of the strain off the rope.

✓ Can be untied easily, even when it is under strain.

✓ The pull of the rope can be at right angles to the ring or post to which it is attached.



Similar knots:
» pp.184–85 Fisherman’s Bend

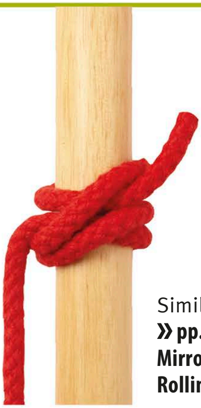
Rolling Hitch

» pp.176–77

✓ Can be used to tie a second line to a sheet in order to relieve strain.

✓ Useful for tying a fender lanyard to a rail.

X Can fail if the pull of the lines are not properly aligned.



Similar knots:
» pp.178–79
Mirrored Rolling Hitch

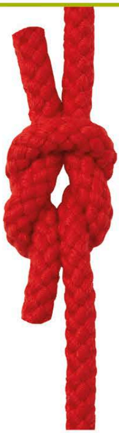
Reef Knot » pp.85–86

✓ Ideal for tying up a bundle of material.

✓ Can also be used to fasten the unused part of a sail around the mast.

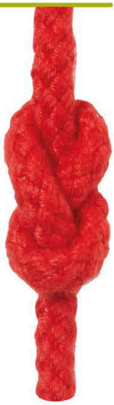
✓ Can be slipped for quick release.

X Not suitable for joining two ropes together – it may collapse and come undone.



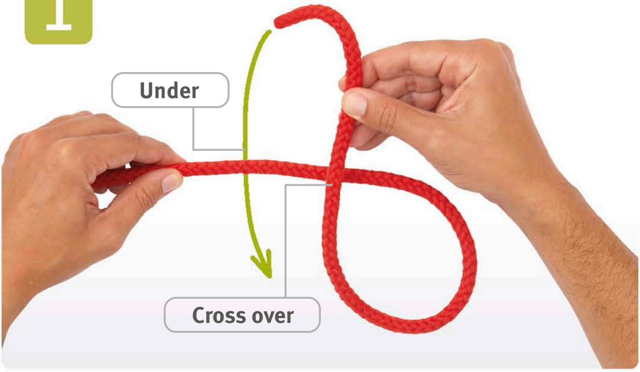
Similar knots:
» pp.87–88
Slipped Reef Knot
» pp.96–98
Surgeon's Knot

Figure of Eight



- Used to prevent a rope from slipping through a hole.
- This knot structure is the basis for several other knots such as the Packer's Knot (*see pp.102–04*).
- Can be tied quickly and untied easily.
- Works well as the base of a loop knot.

1



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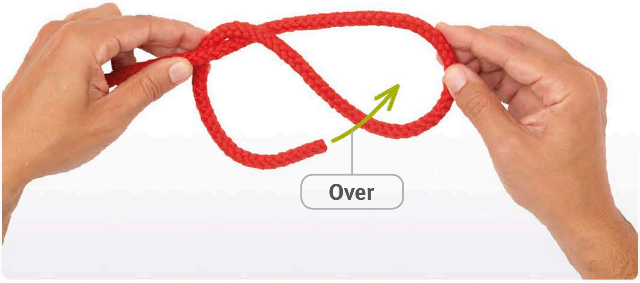

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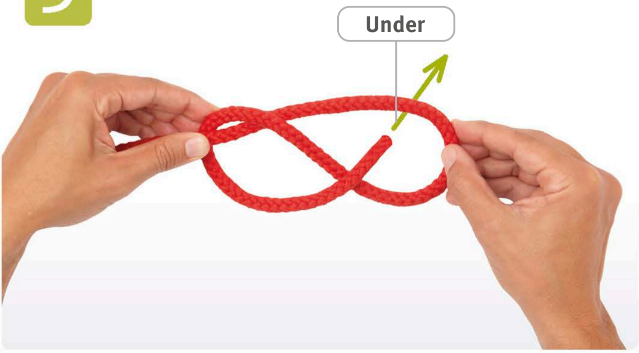

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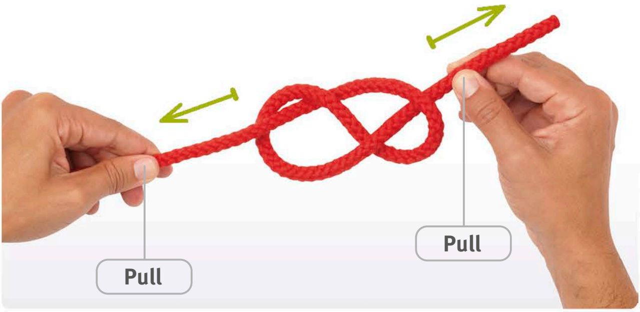

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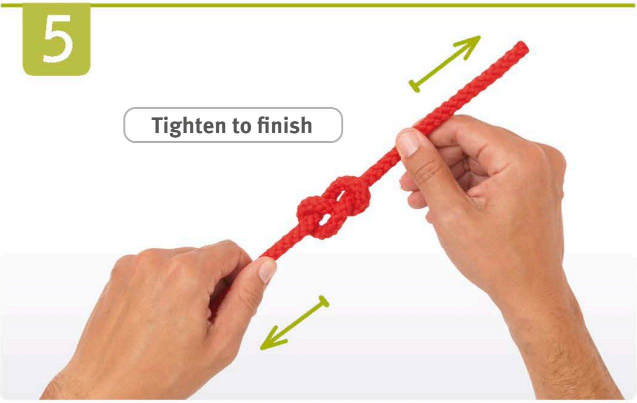
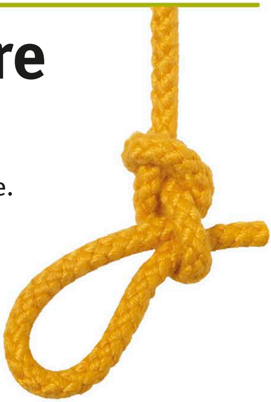

Tighten to finish

Slipped Figure of Eight

- A stopper knot that is quick to tie.
- Easier to untie than the Figure of Eight (*see pp.38–39*).
- Ensure that you work the knot tight so it does not come undone inadvertently.



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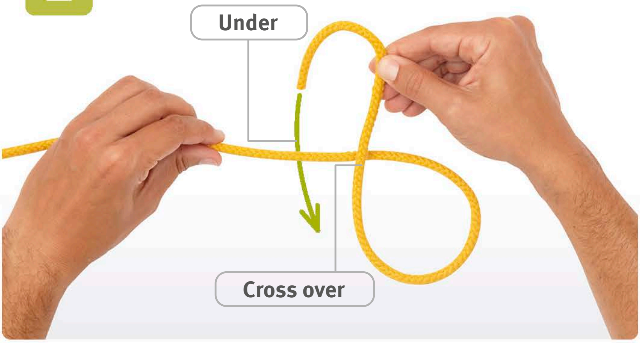
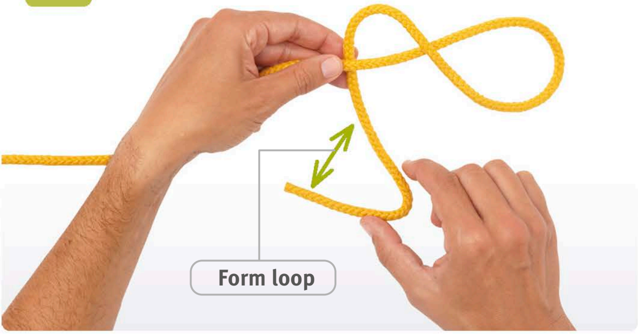

Under
Cross over

2



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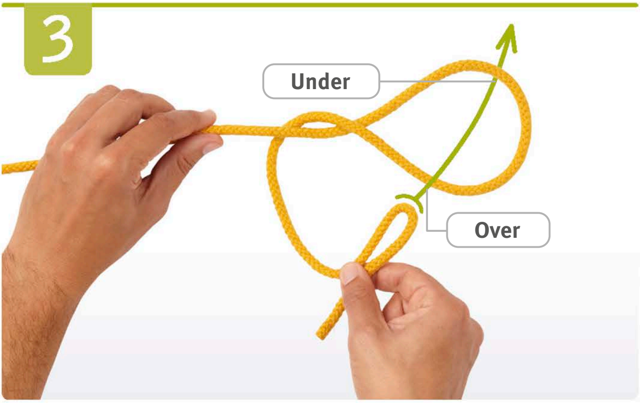

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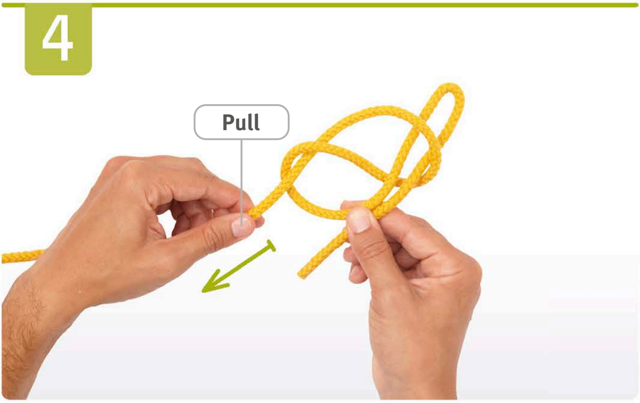

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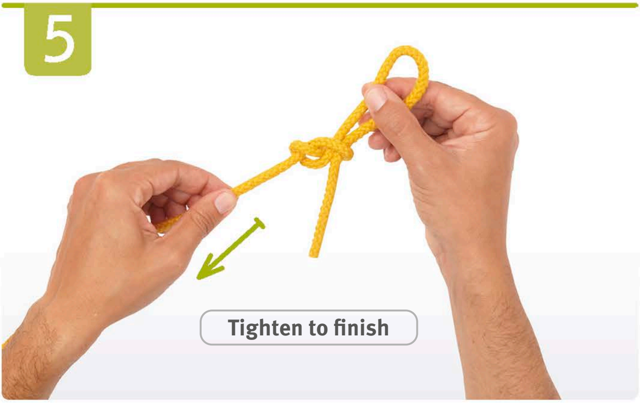
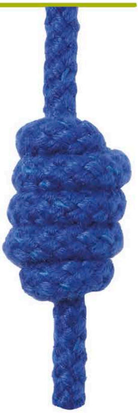
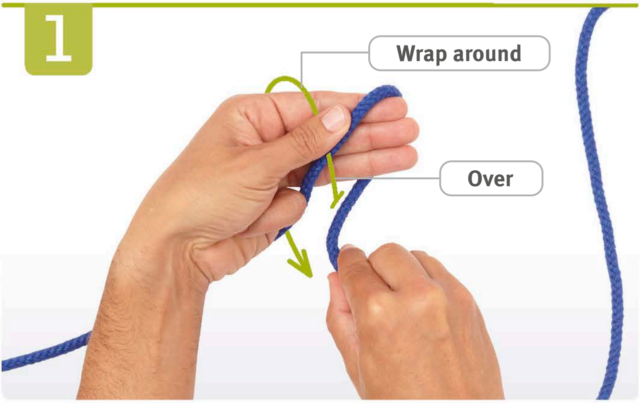

Tighten to finish

Stopper Knot

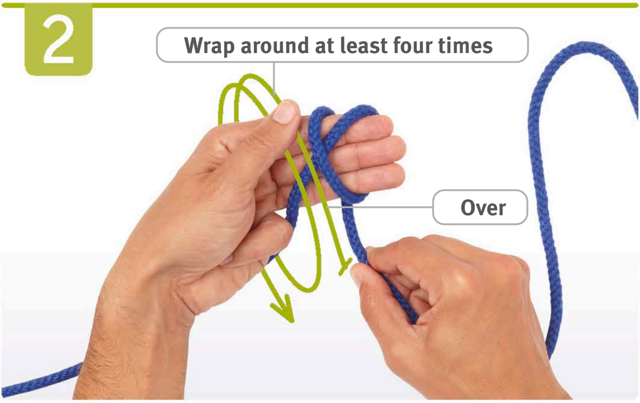
- Gives weight to the end of a rope that needs to be thrown.
- A variation of the Overhand Knot (*see pp.28–29*) and one of the most decorative stopper knots.



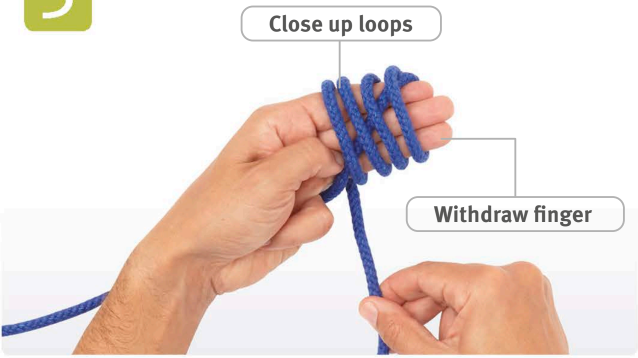
1


Wrap around
Over

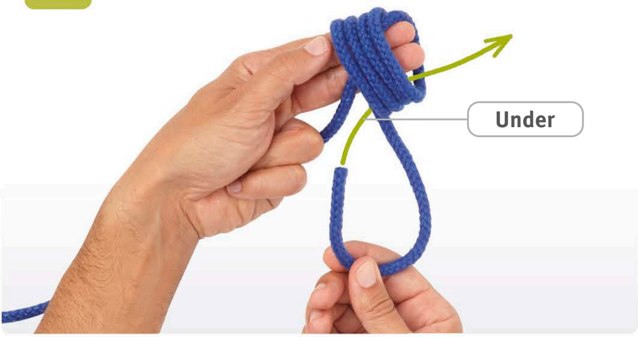
2


Wrap around at least four times
Over

3


Close up loops
Withdraw finger

4



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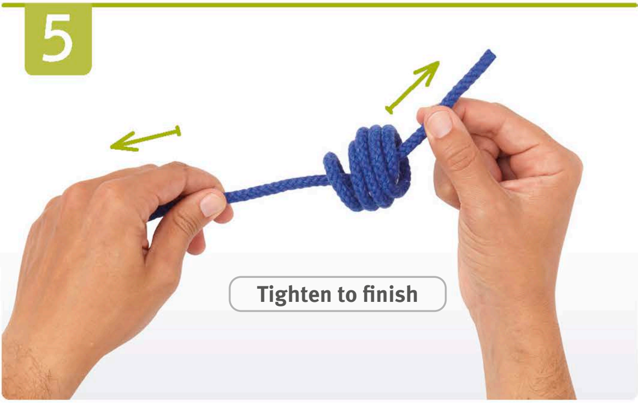
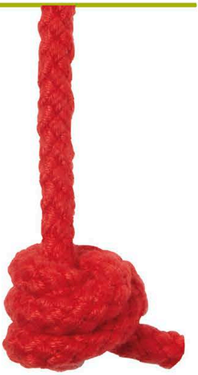

Tighten to finish

Sink Stopper Knot

- Used to prevent a thin rope from slipping through a large hole.
- Needs to be carefully tightened and worked into shape.
- Difficult to untie when tightened.



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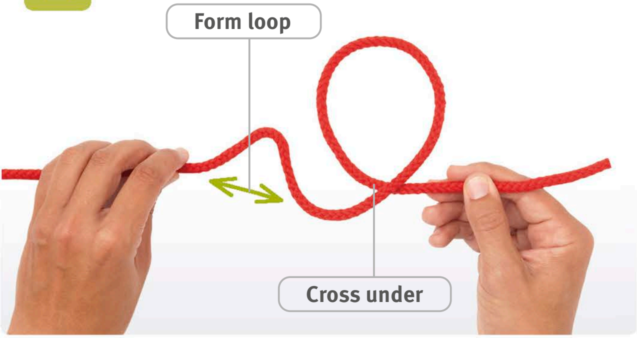
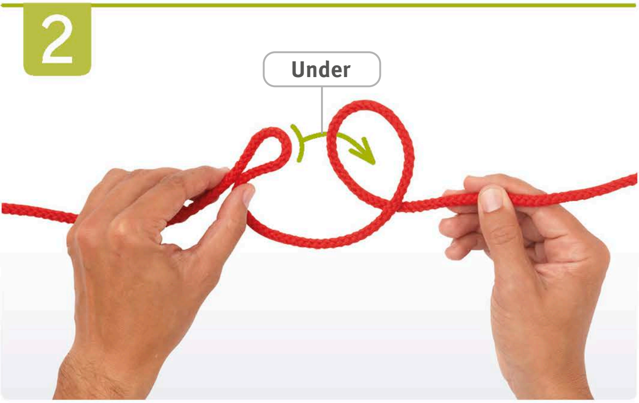

Form loop
Cross under

2



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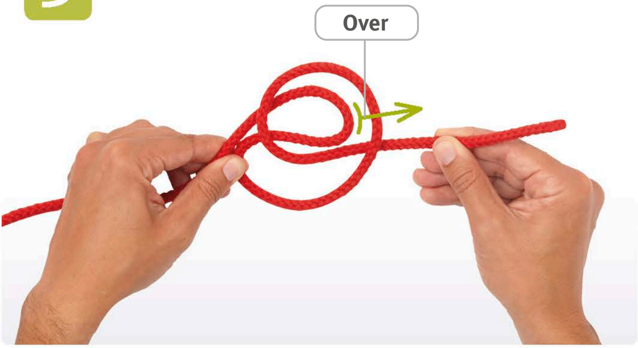

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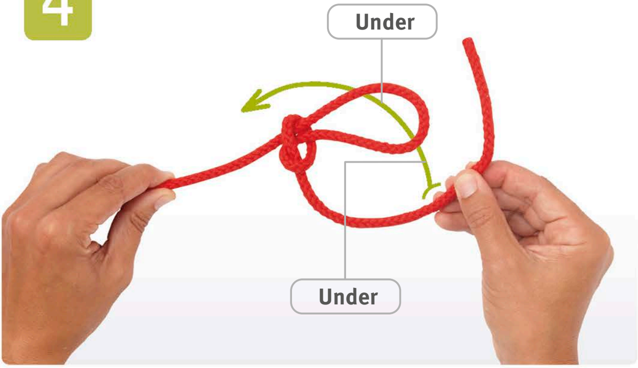
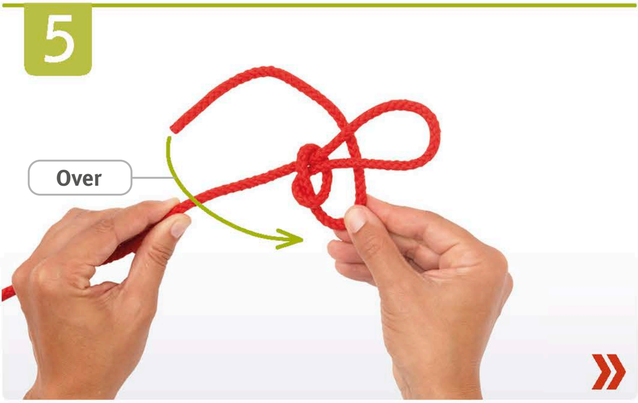
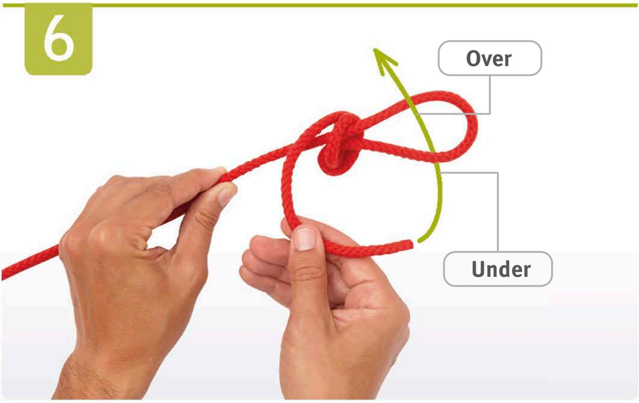

Under
Under

5



»

6



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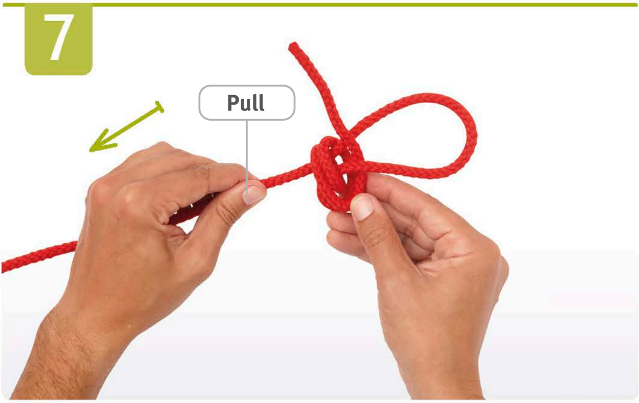

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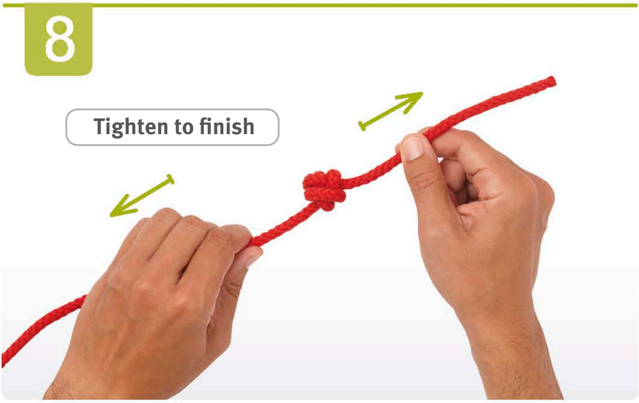
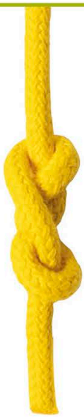
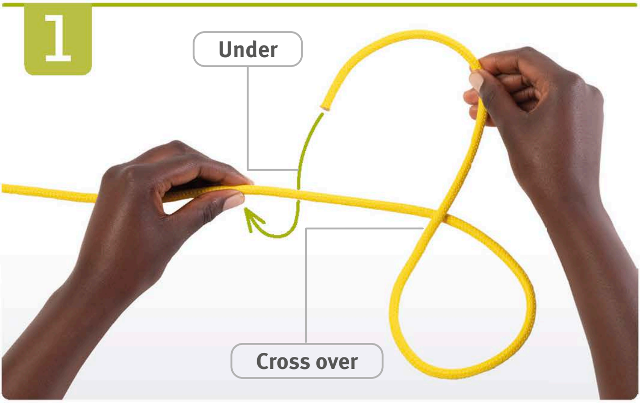

Tighten to finish

Stevedore Knot

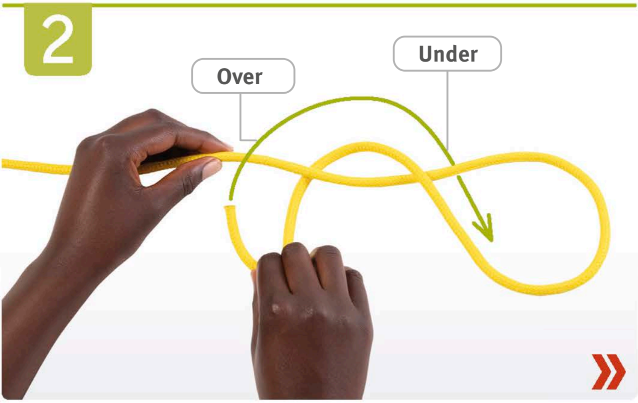


- Good for preventing a line from slipping.
- Starts like the Figure of Eight (*see pp.38–39*), but its extra turn forms a bulkier knot that is less prone to jamming and easier to untie.
- Preferred by stevedores or dockworkers.

1


Under
Cross over

2



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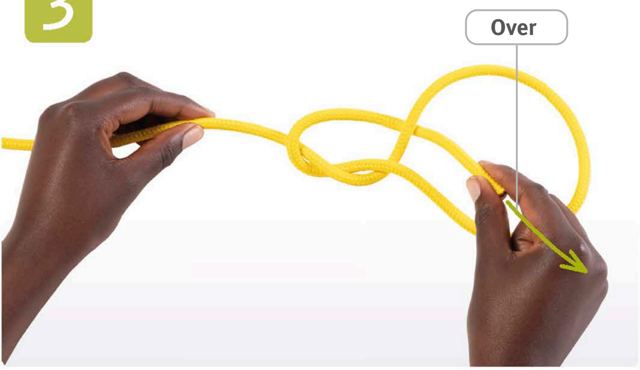

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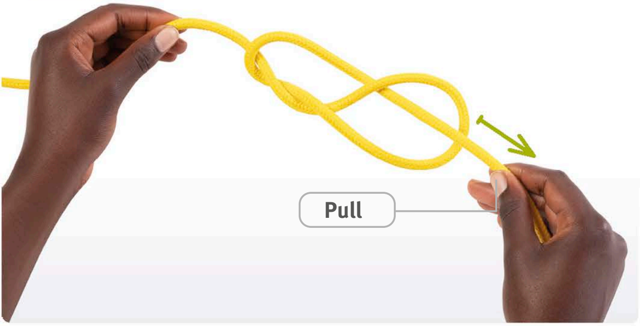

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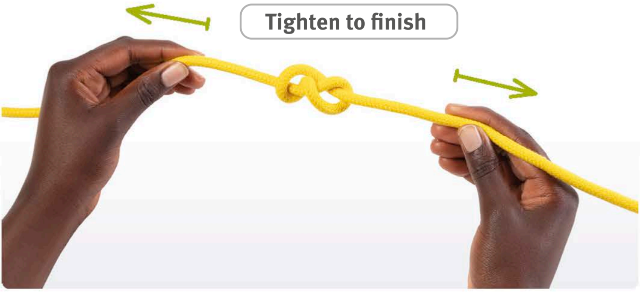
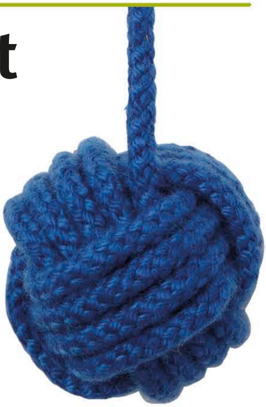
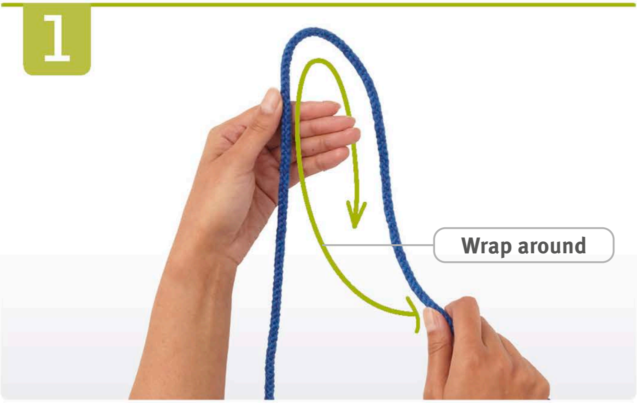

Tighten to finish

Monkey's Fist

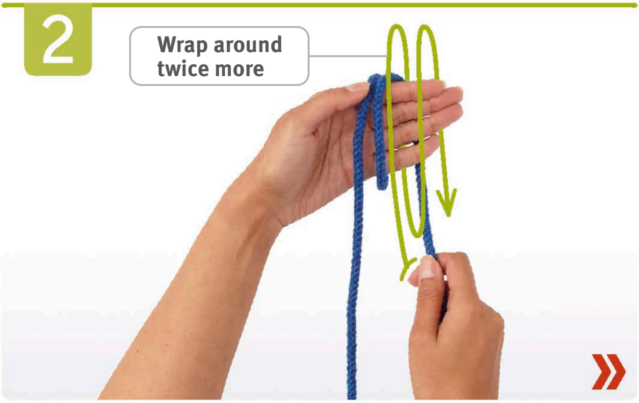
- Adds extra weight to the end of a line that needs to be thrown.
- When working the knot into shape, ensure that all turns are even.
- When being used for decorative purposes, such as a key fob, place a wooden ball in the centre to add weight.



1

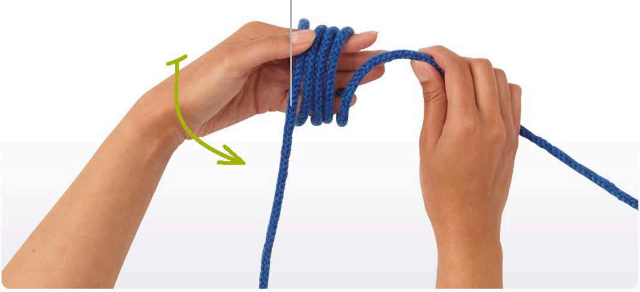

Wrap around

2


Wrap around twice more

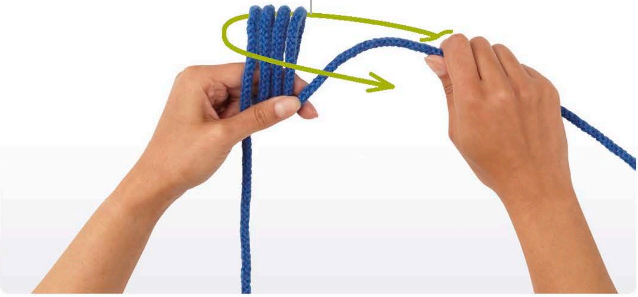
»

3



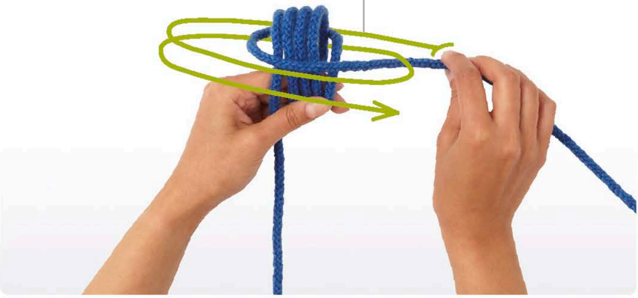
Grip the bottom of the loops

4



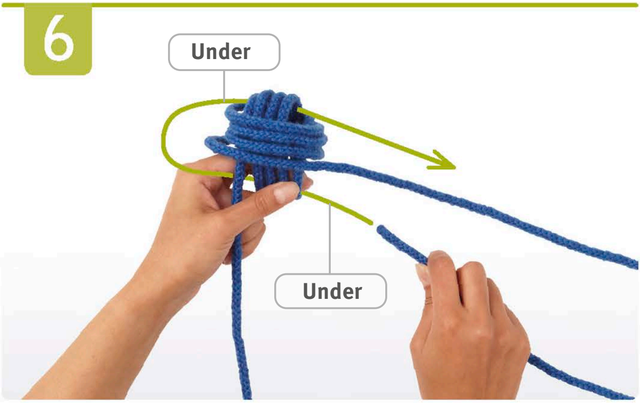
Wrap around

5

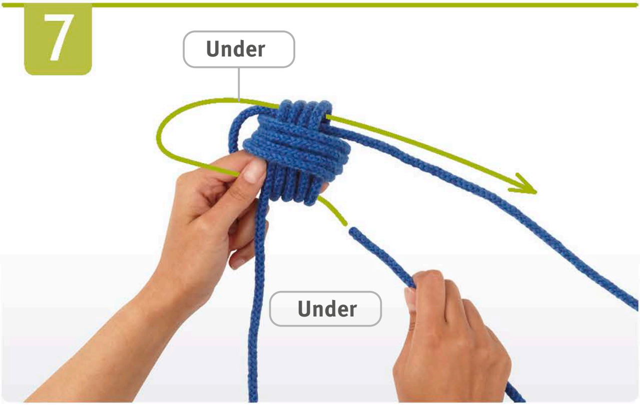


Wrap around three times

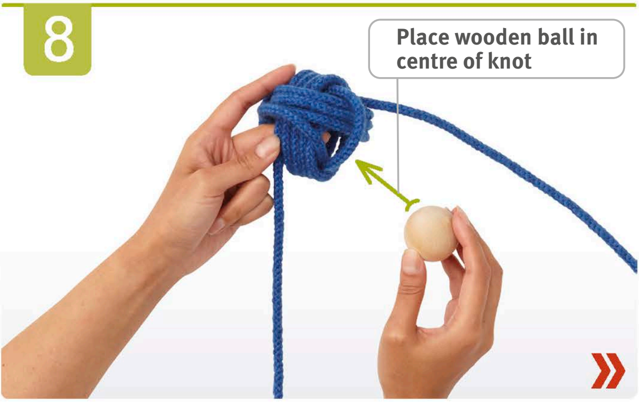
6


Under
Under

7

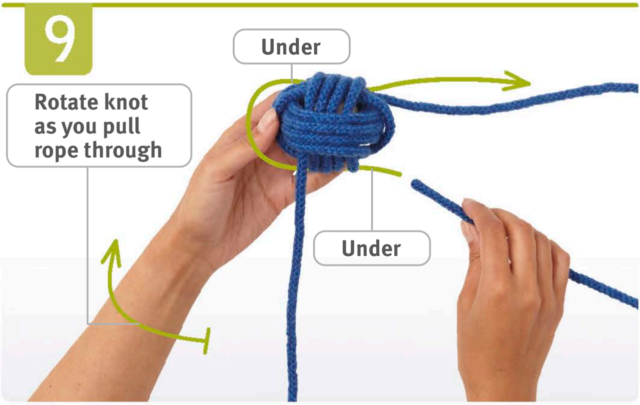

Under
Under

8

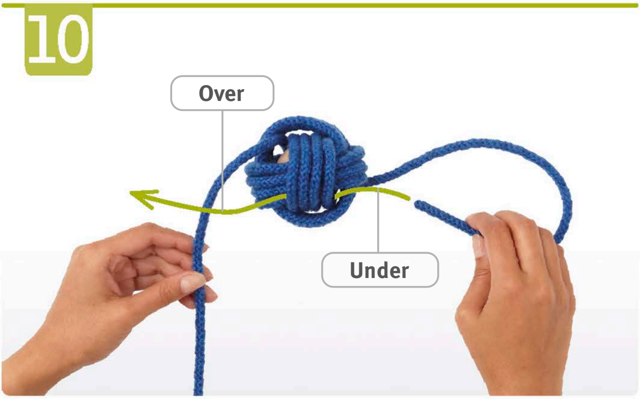

Place wooden ball in centre of knot

»

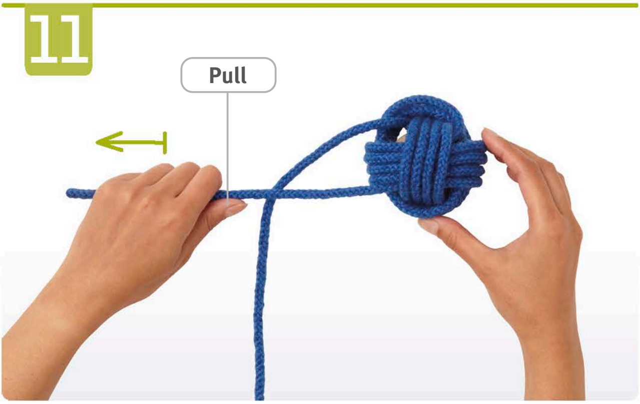
9


Rotate knot as you pull rope through
Under
Under

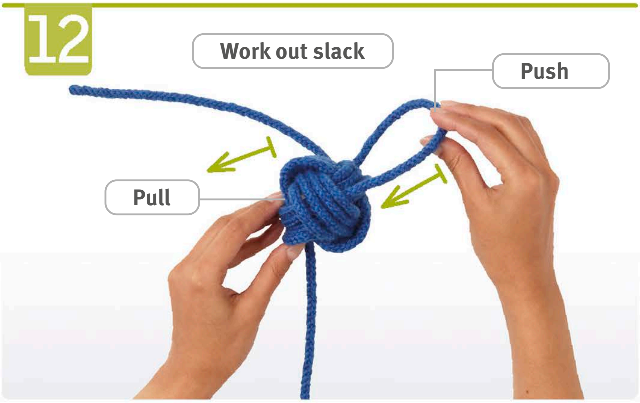
10


Over
Under

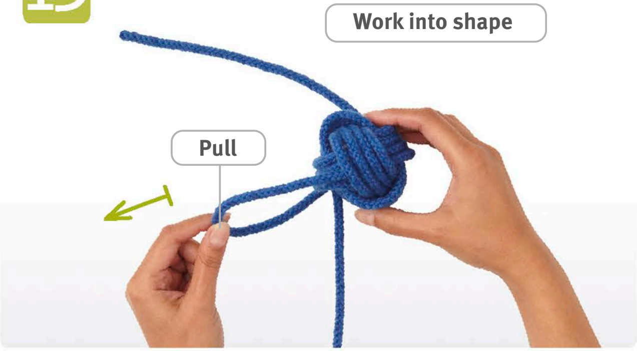
11


Pull

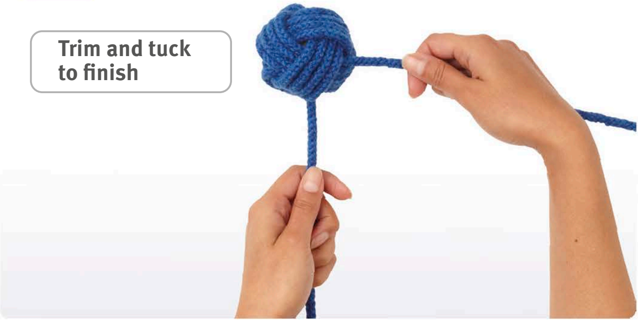
12


Work out slack
Push
Pull

13

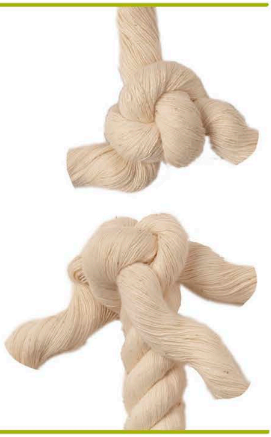

Work into shape
Pull

14

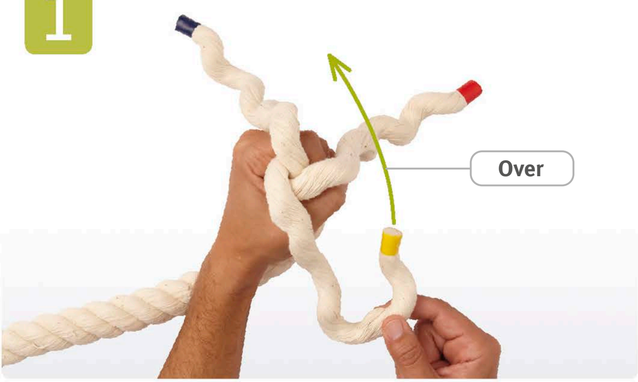

Trim and tuck
to finish

Crown Knot

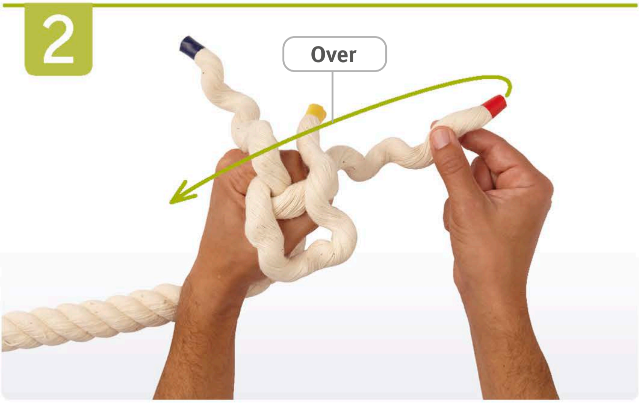
- Used to prevent the ends of a three-strand rope from unravelling.
- Forms the basis of other decorative stoppers such as the Manrope Knot (*see pp.61–71*).
- Ensure that strand ends point downwards.

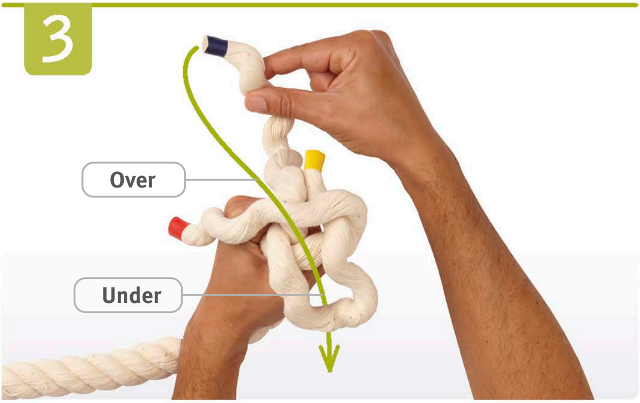


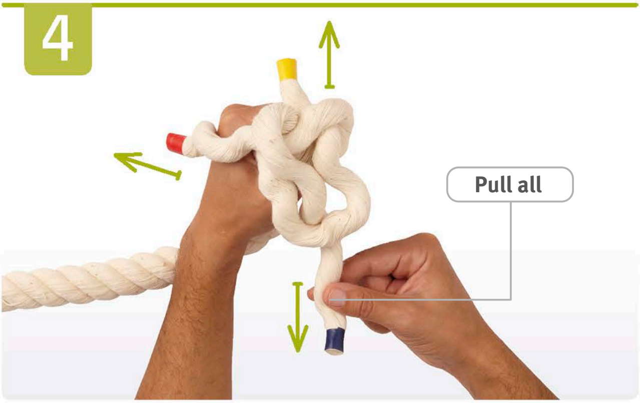
1

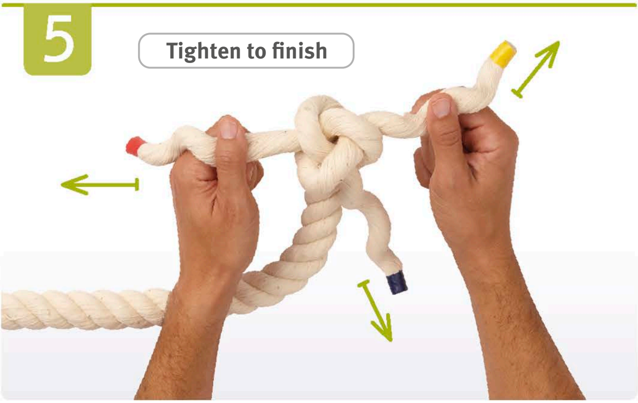


2



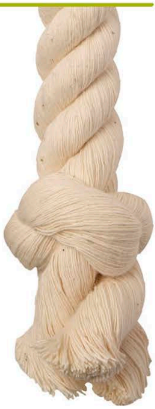

3
Over
Under


4
Pull all

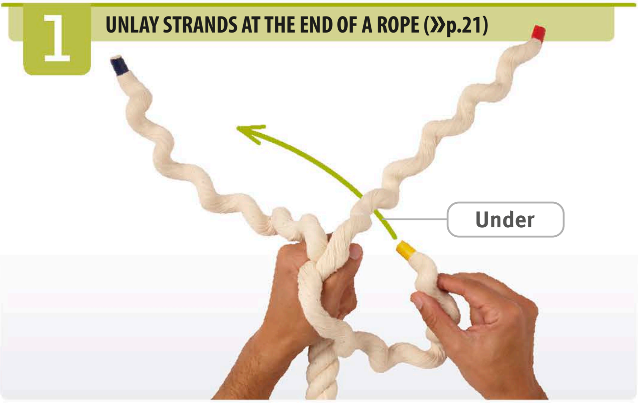

5
Tighten to finish

Wall Knot

- Used in combination with the Crown Knot (*see pp.54–55*) to make other decorative stopper knots such as the Manrope Knot (*see pp.61–71*).
- Whip (*see pp.374–75*) the ends before using as a stopper knot.
- Ensure the ends point upwards from the knot.
- Forms the basis of the Matthew Walker Knot (*see pp.58–60*).



1 **UNLAY STRANDS AT THE END OF A ROPE (»p.21)**



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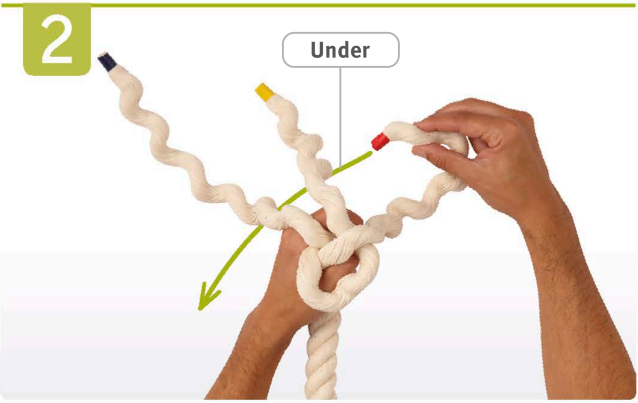

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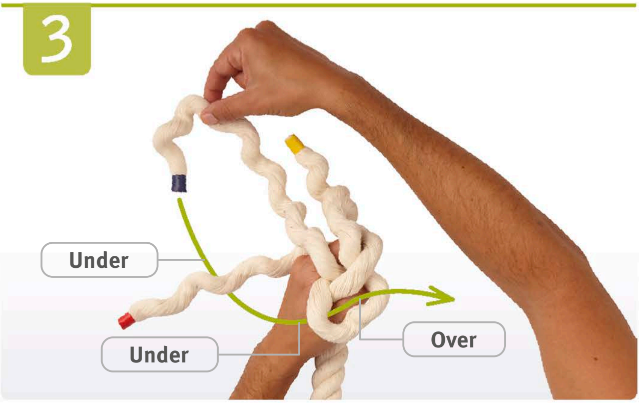
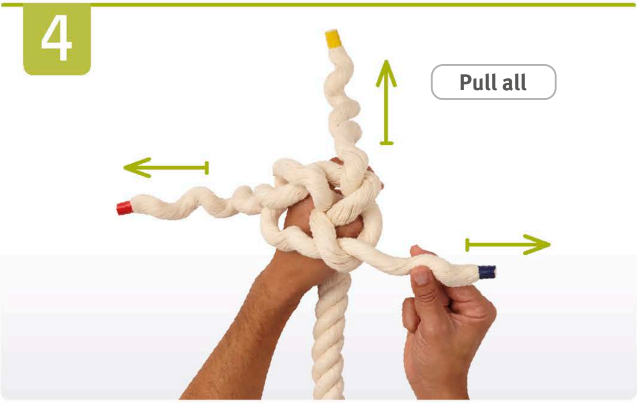

Under
Under
Over

4



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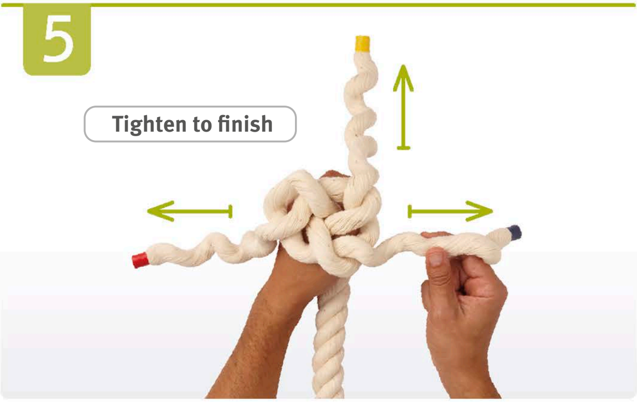
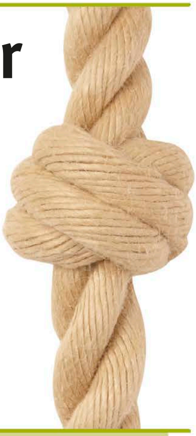

Tighten to finish

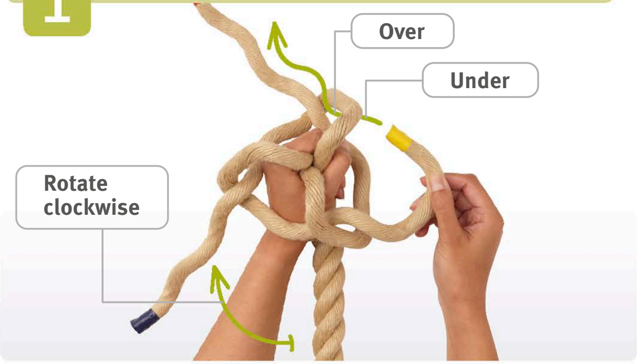
Matthew Walker Knot



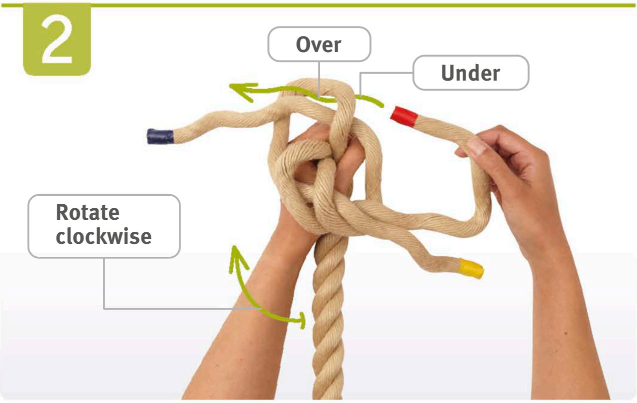
- A stopper knot for three-strand rope.
- Can also be made with four strands.
- Traditionally tied at the end of a rope used as a handle for a wooden bucket.

1

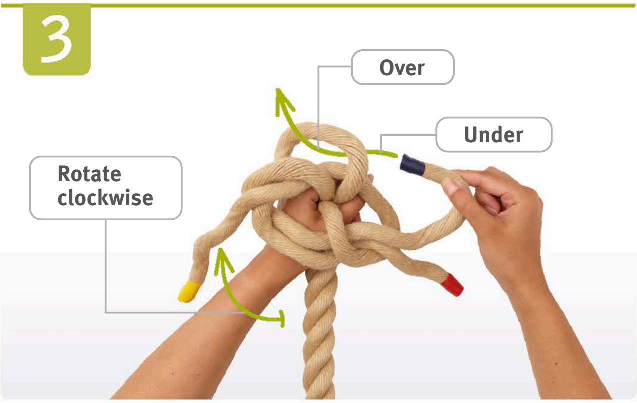
TIE A LOOSE WALL KNOT (»pp.56–57)


Over
Under
Rotate clockwise

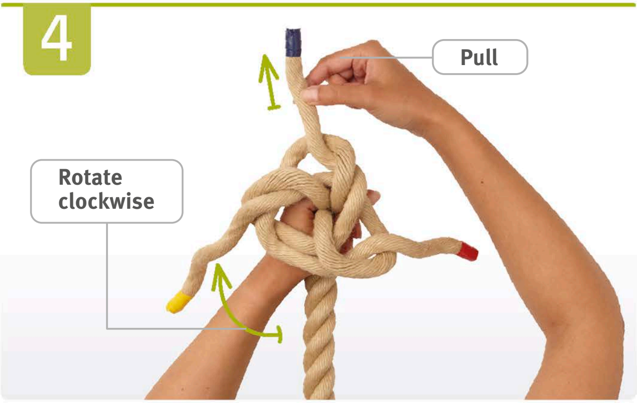
2


Over
Under
Rotate clockwise

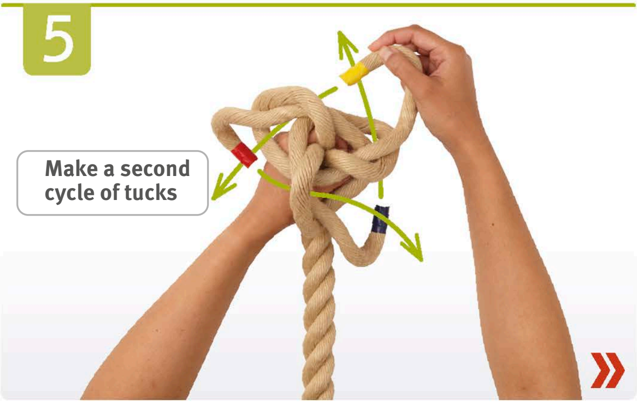
3


Over
Under
Rotate clockwise

4

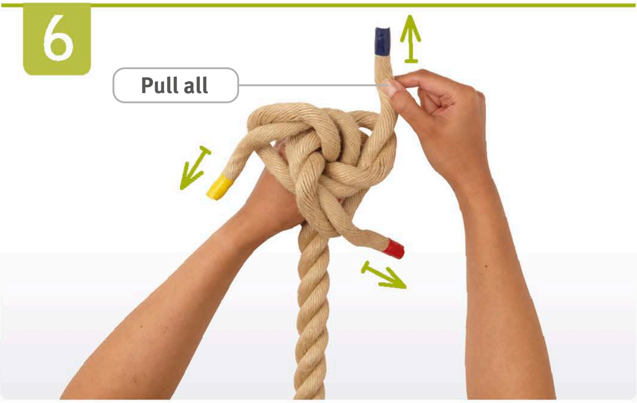

Pull
Rotate clockwise

5


Make a second cycle of tucks

»

6



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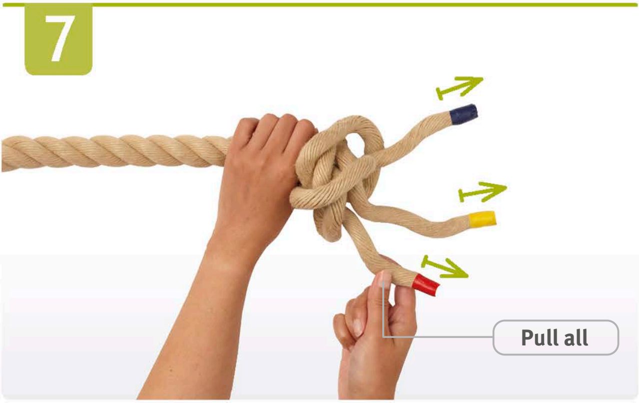

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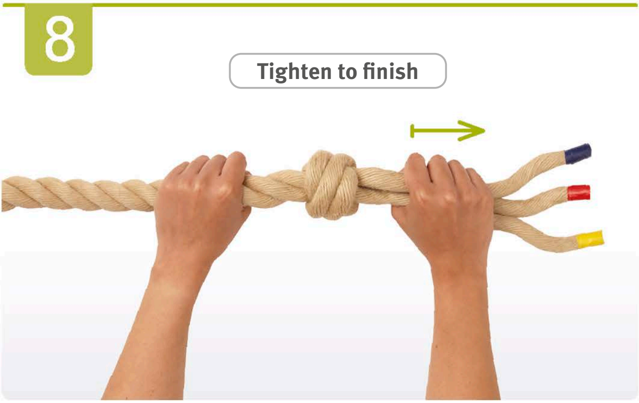
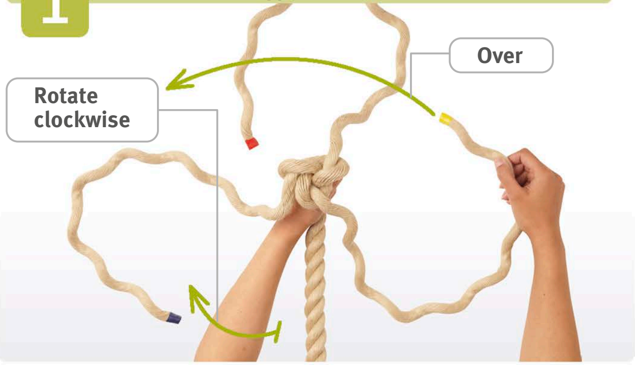

Tighten to finish

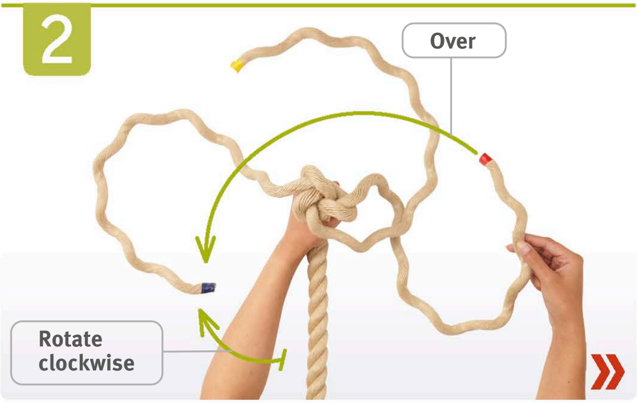
Manrope Knot

- A decorative stopper knot made by tying a Crown Knot (*see pp.54–55*) on top of a Wall Knot (*see pp.56–57*).
- Traditionally tied on the ends of handrail ropes used when boarding ships.
- Can be doubled but care must be taken that each strand is positioned on the same side as the previous one.

1 TIE A WALL KNOT (»pp.56–57)

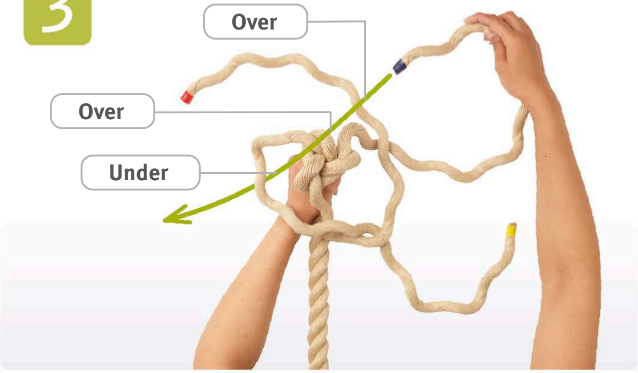

Over
Rotate clockwise

2

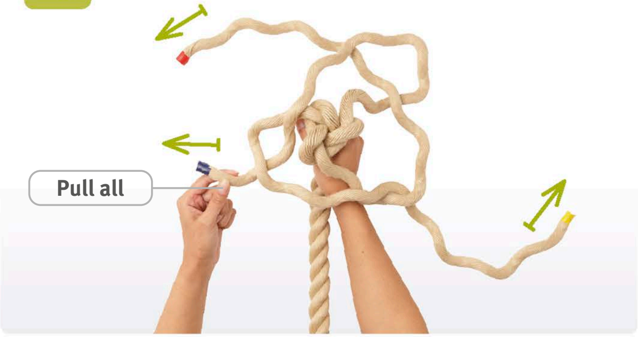

Over
Rotate clockwise

»

3


Over
Over
Under

4



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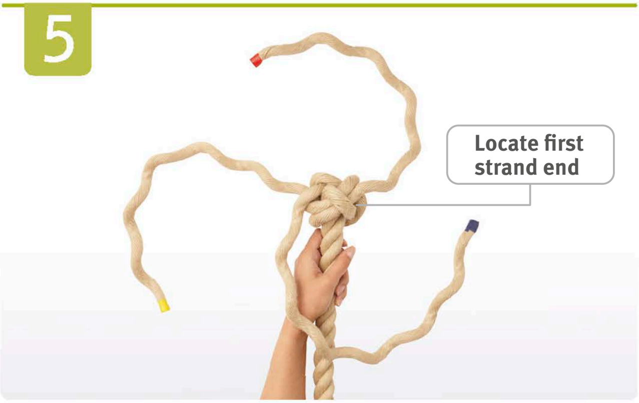
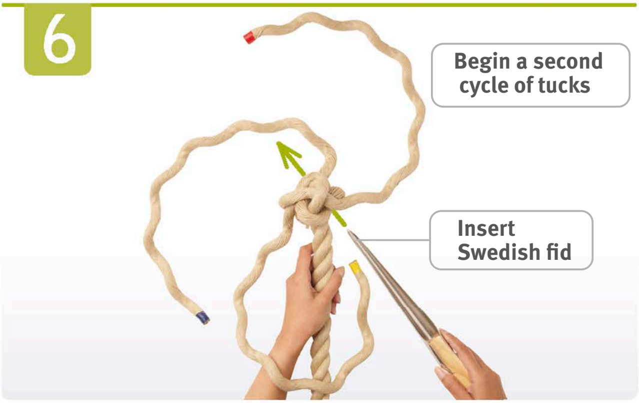

Locate first strand end

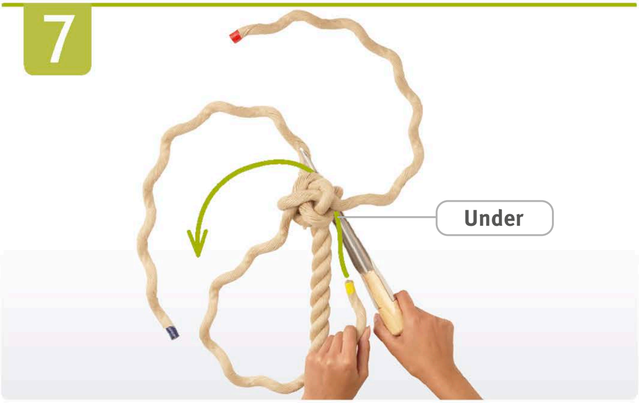
6



Begin a second cycle of tucks

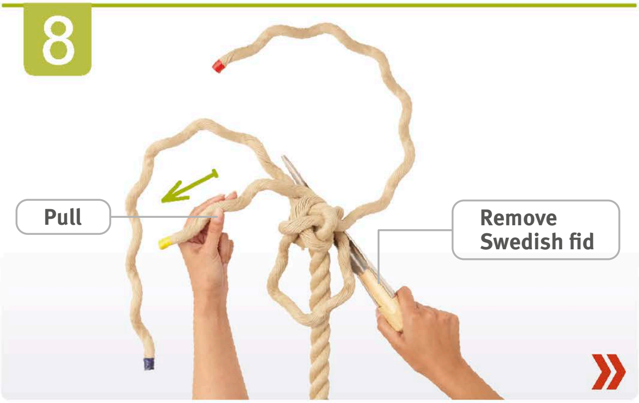
Insert Swedish fid

7



Under

8

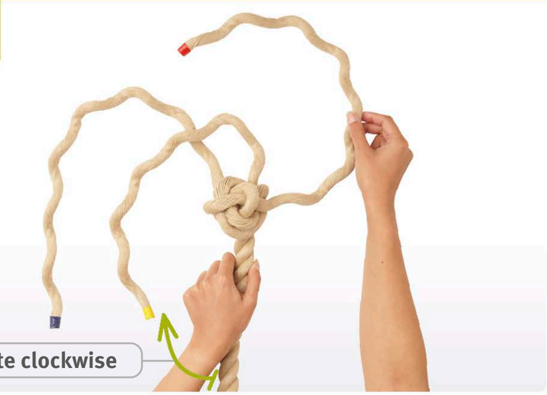


Pull

Remove Swedish fid

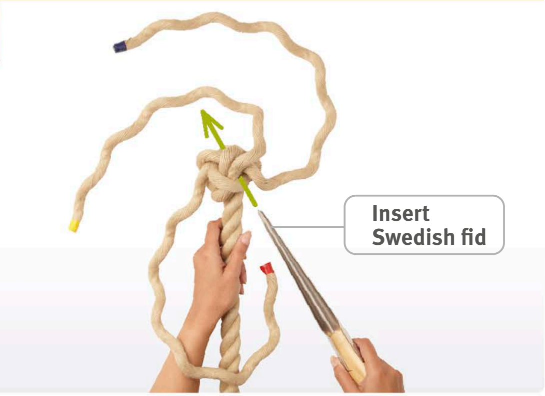
»

9



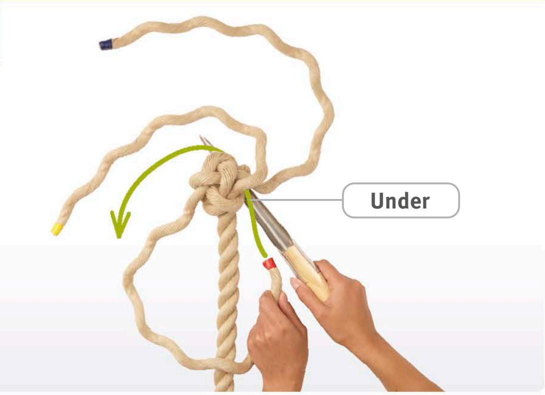
Rotate clockwise

10



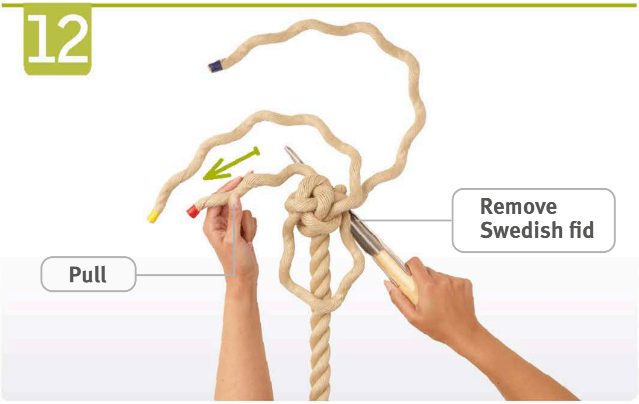
Insert Swedish fid

11

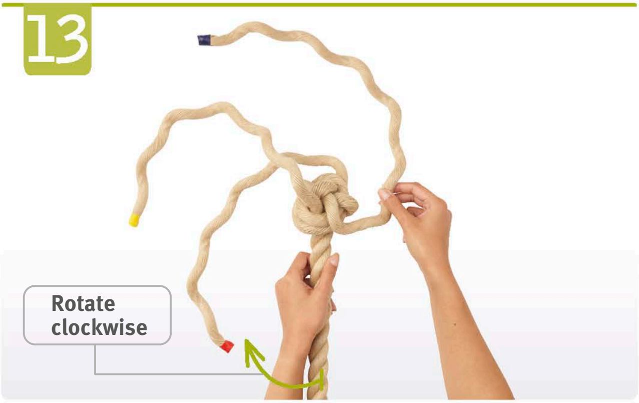


Under

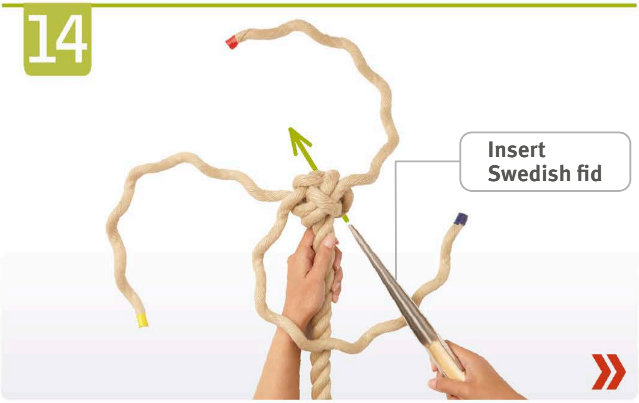
12


Remove
Swedish fid
Pull

13

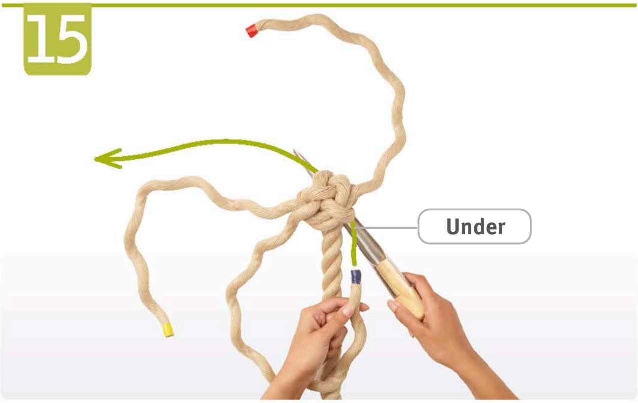

Rotate
clockwise

14

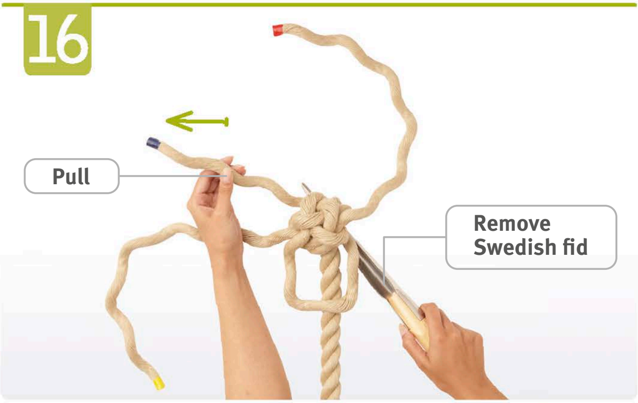

Insert
Swedish fid

»

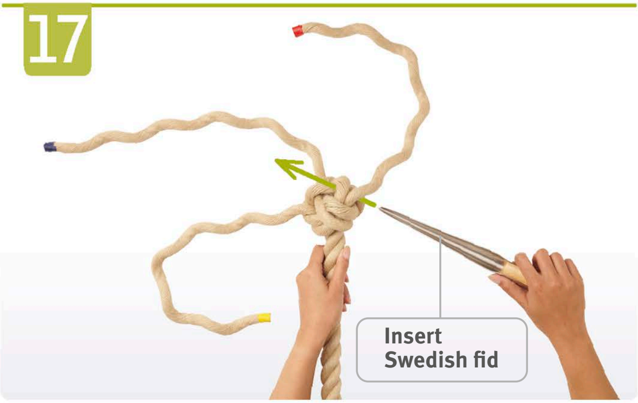
15



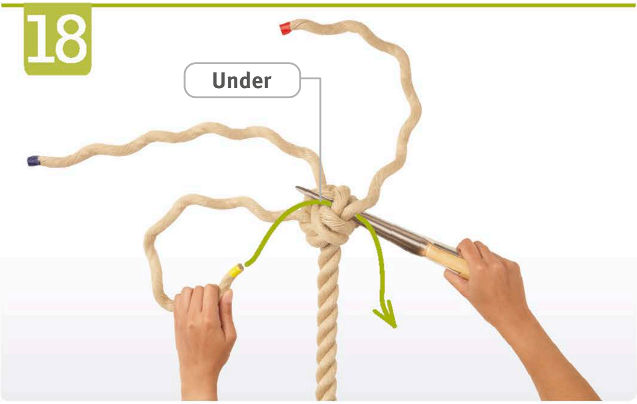
16


Pull
Remove Swedish fid

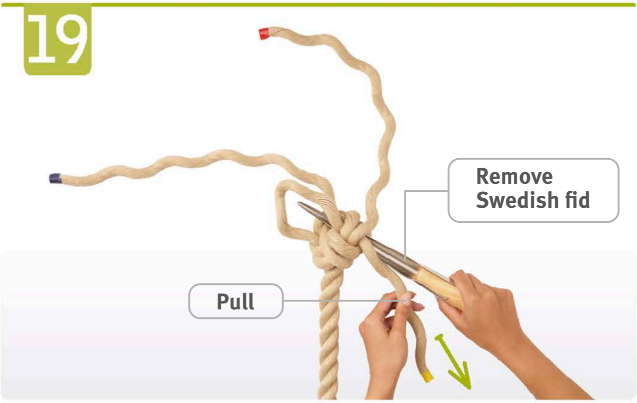
17


Insert Swedish fid

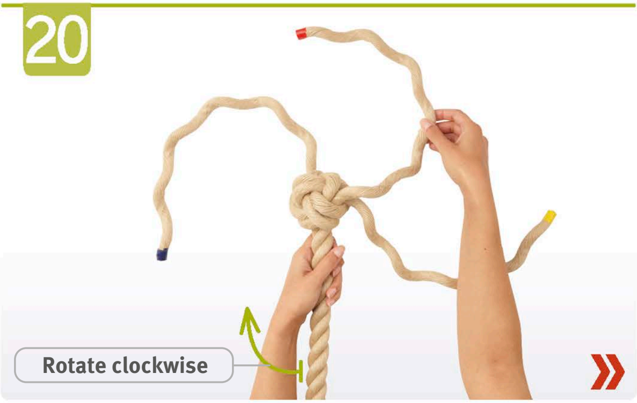
18



19

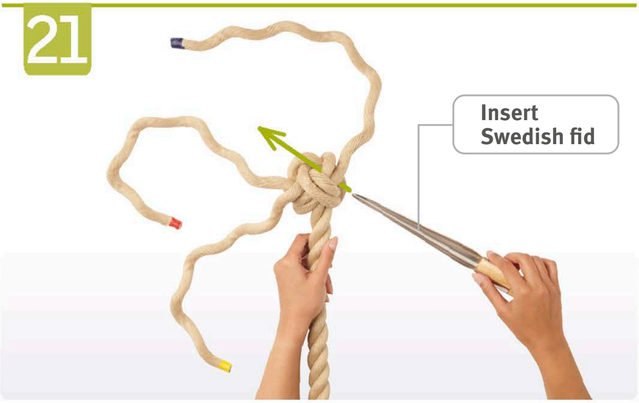

Remove Swedish fid
Pull

20


Rotate clockwise

»

21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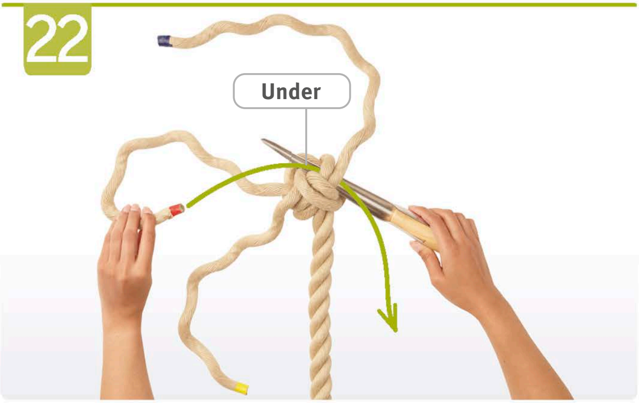

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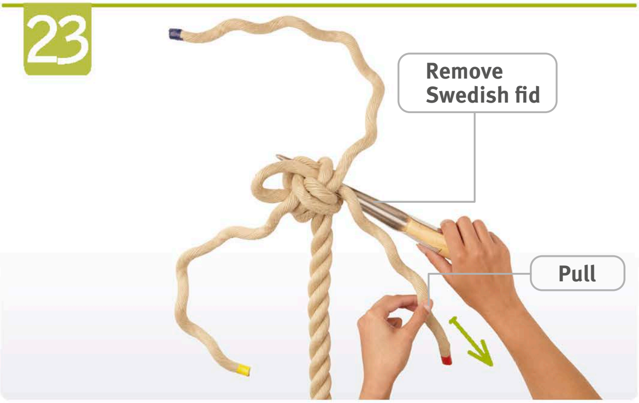
Remove
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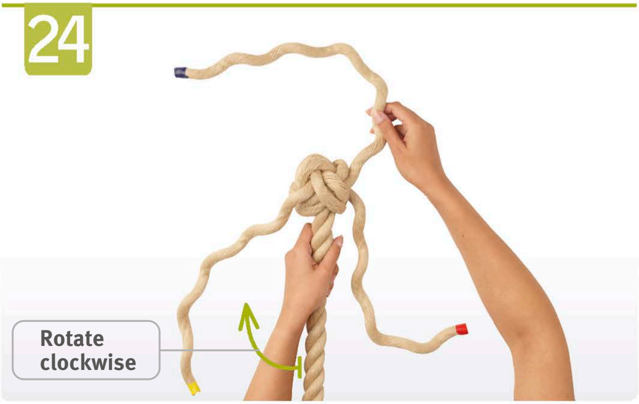
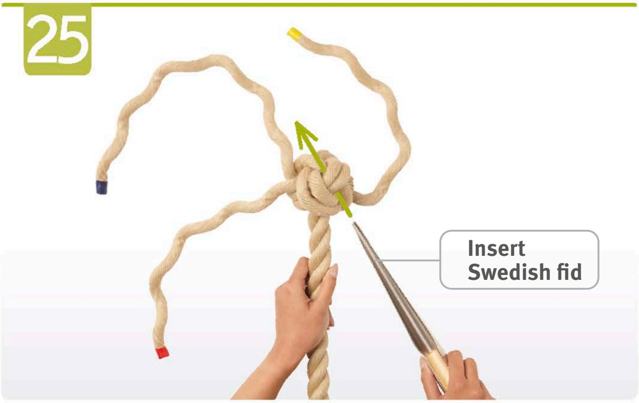
Pull

24



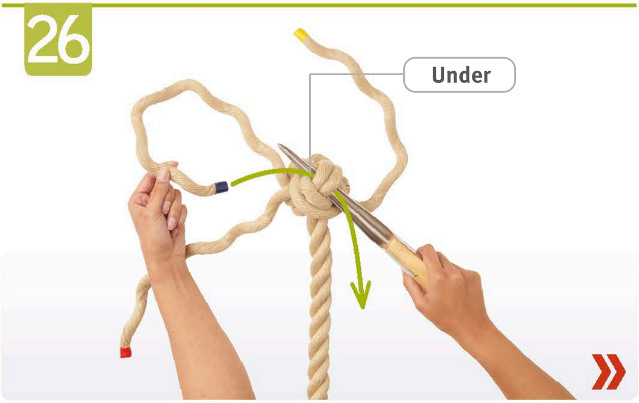
Rotate clockwise

25



Insert Swedish fid

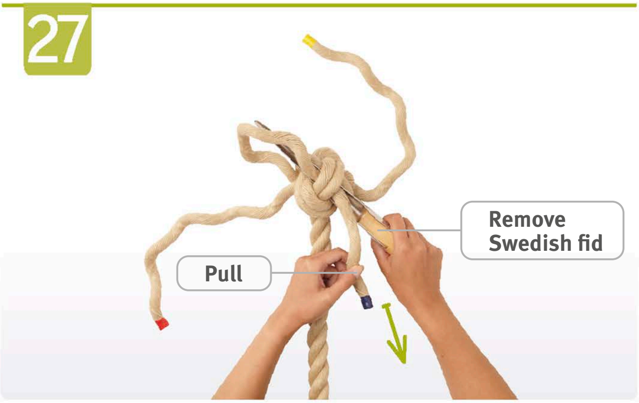
26



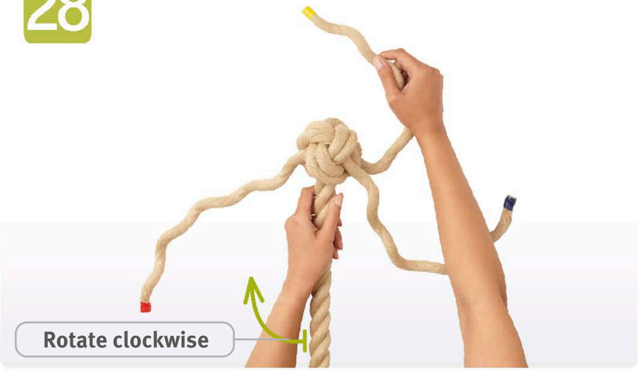
Under

»

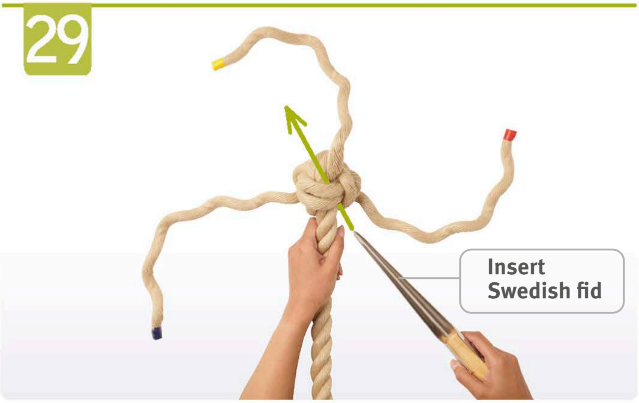
27


Remove
Swedish fid
Pull

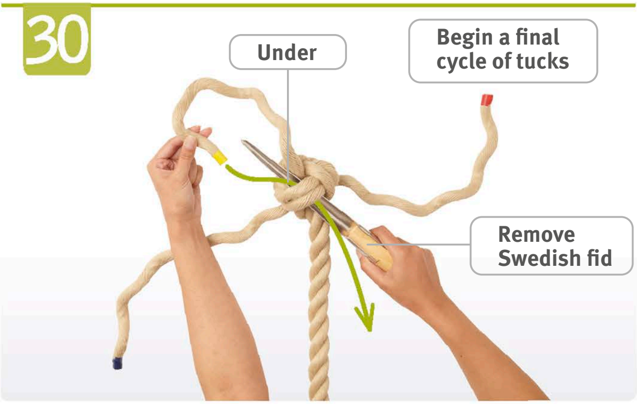
28


Rotate clockwise

29


Insert
Swedish fid

30

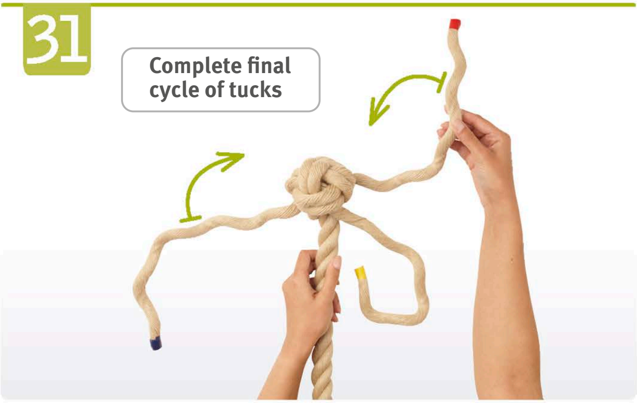


Under

Begin a final cycle of tucks

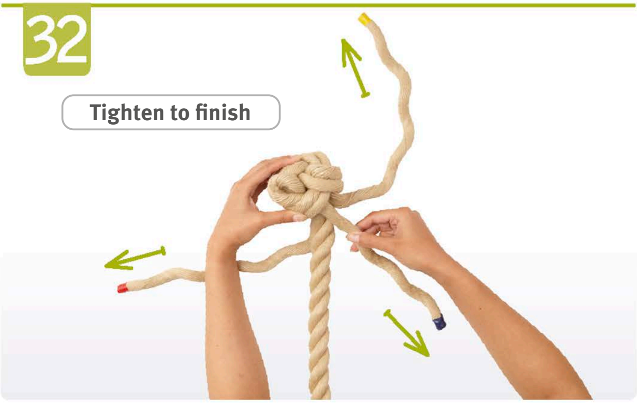
Remove Swedish fid

31



Complete final cycle of tucks

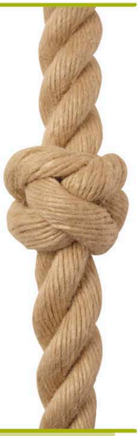
32



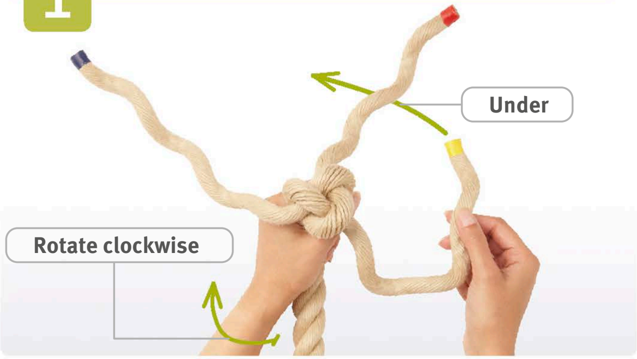
Tighten to finish

Diamond Knot

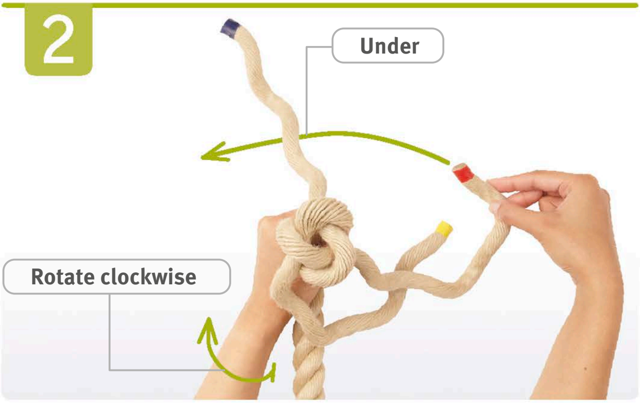
- A firm stopper knot tied in the strands of the rope.
- Made by tying a Wall Knot (*see pp.56–57*) below a Crown Knot (*see pp.54–55*).
- Sometimes used as an alternative to the Matthew Walker Knot (*see pp.58–60*).
- To make it easier to thread the strands, use a fid or Swedish fid (*see p.19*).



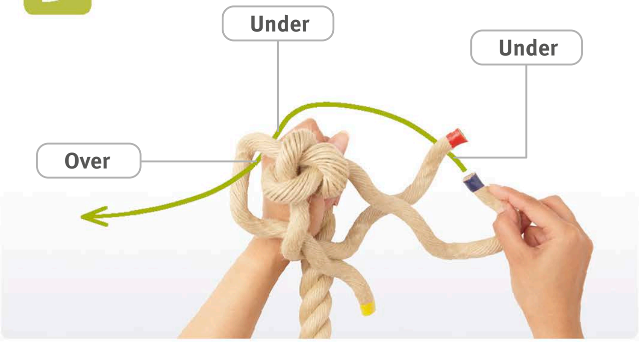
1 TIE A CROWN KNOT (»pp.54–55)


Under
Rotate clockwise

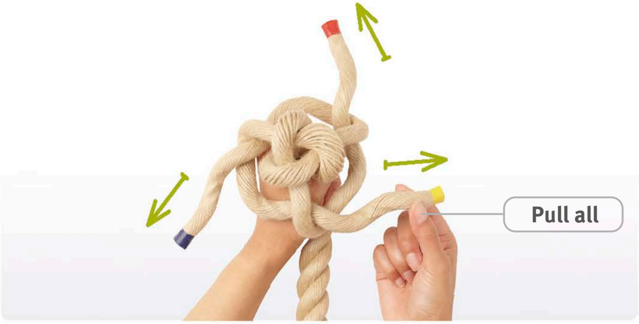
2


Under
Rotate clockwise

3


Under
Under
Over

4



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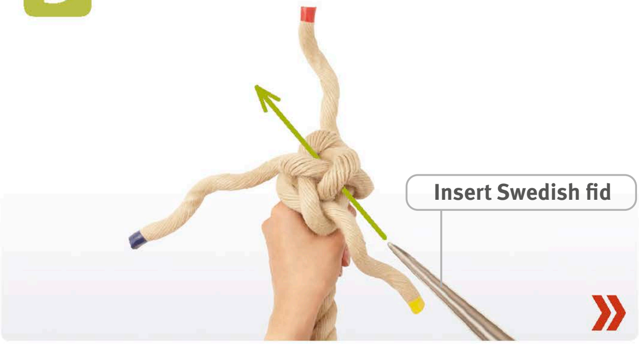
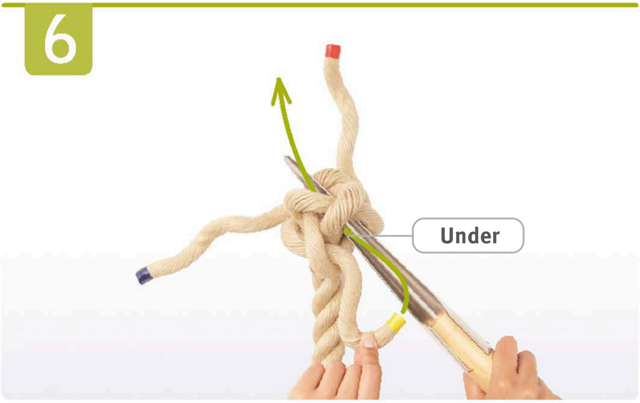

Insert Swedish fid

6



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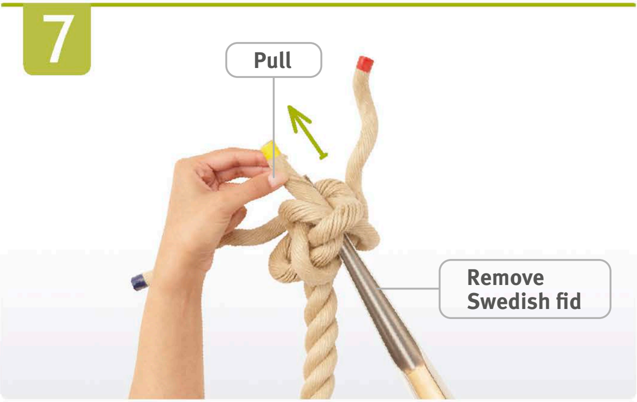
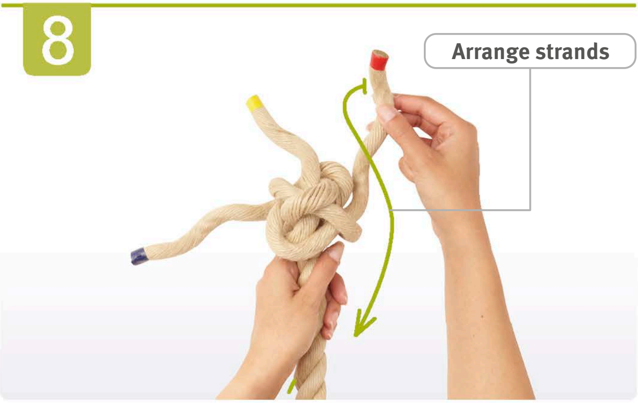
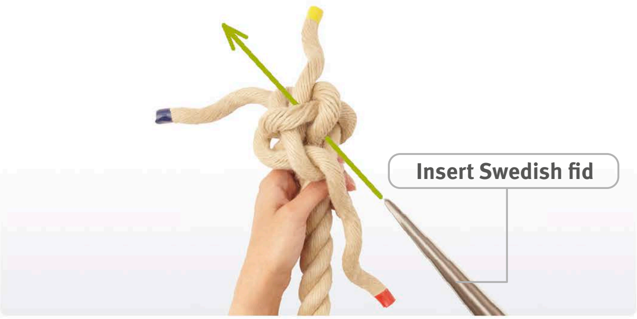

Pull
Remove Swedish fid

8

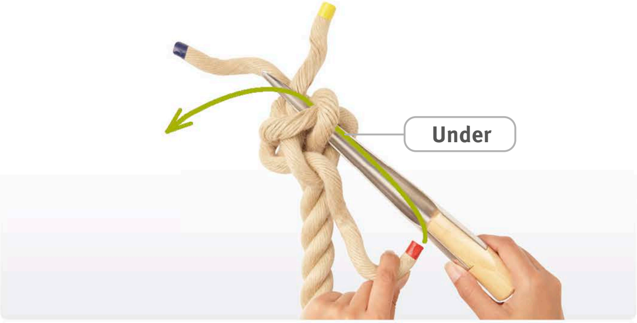

Arrange strands

9



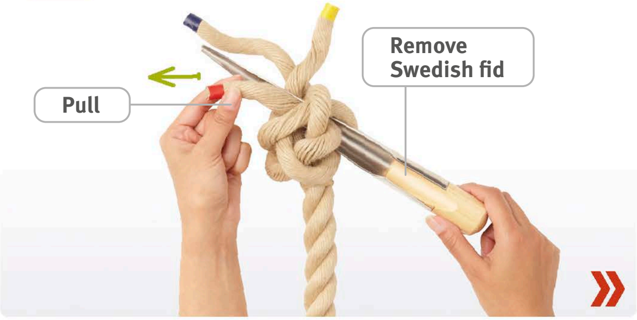
Insert Swedish fid

10



Under

11

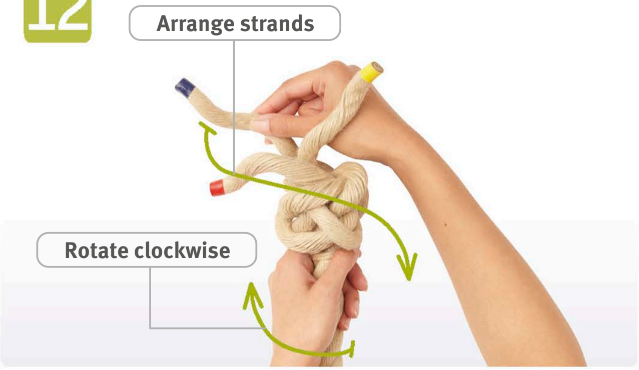


Pull

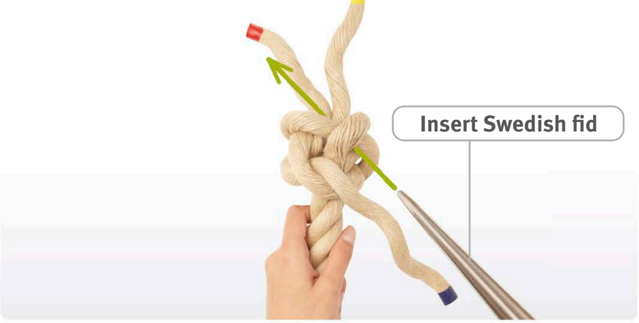
Remove Swedish fid

»

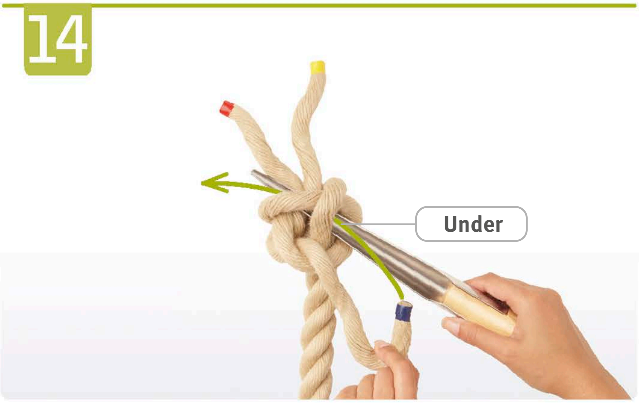
12


Arrange strands
Rotate clockwise

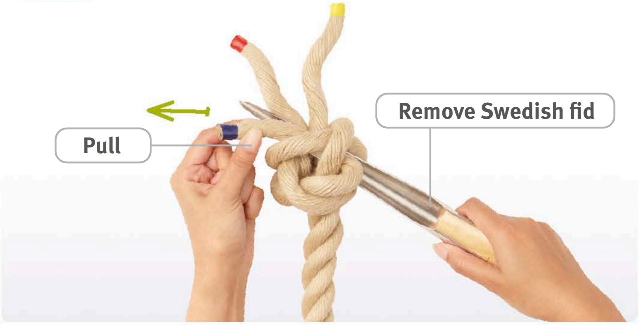
13


Insert Swedish fid

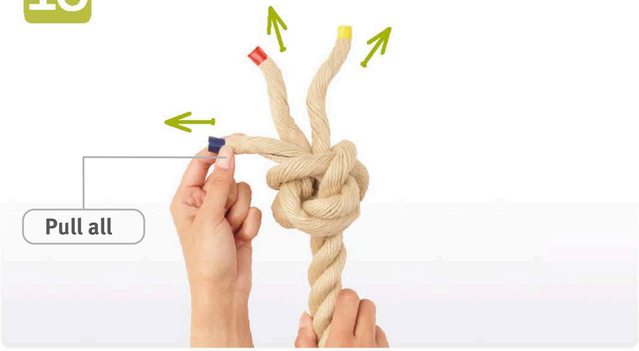
14


Under

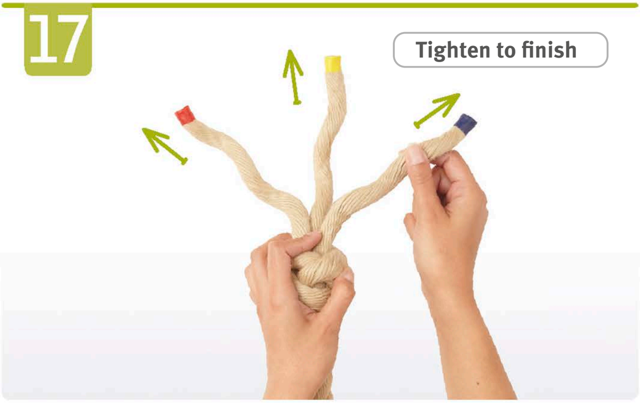
15


Pull
Remove Swedish fid

16

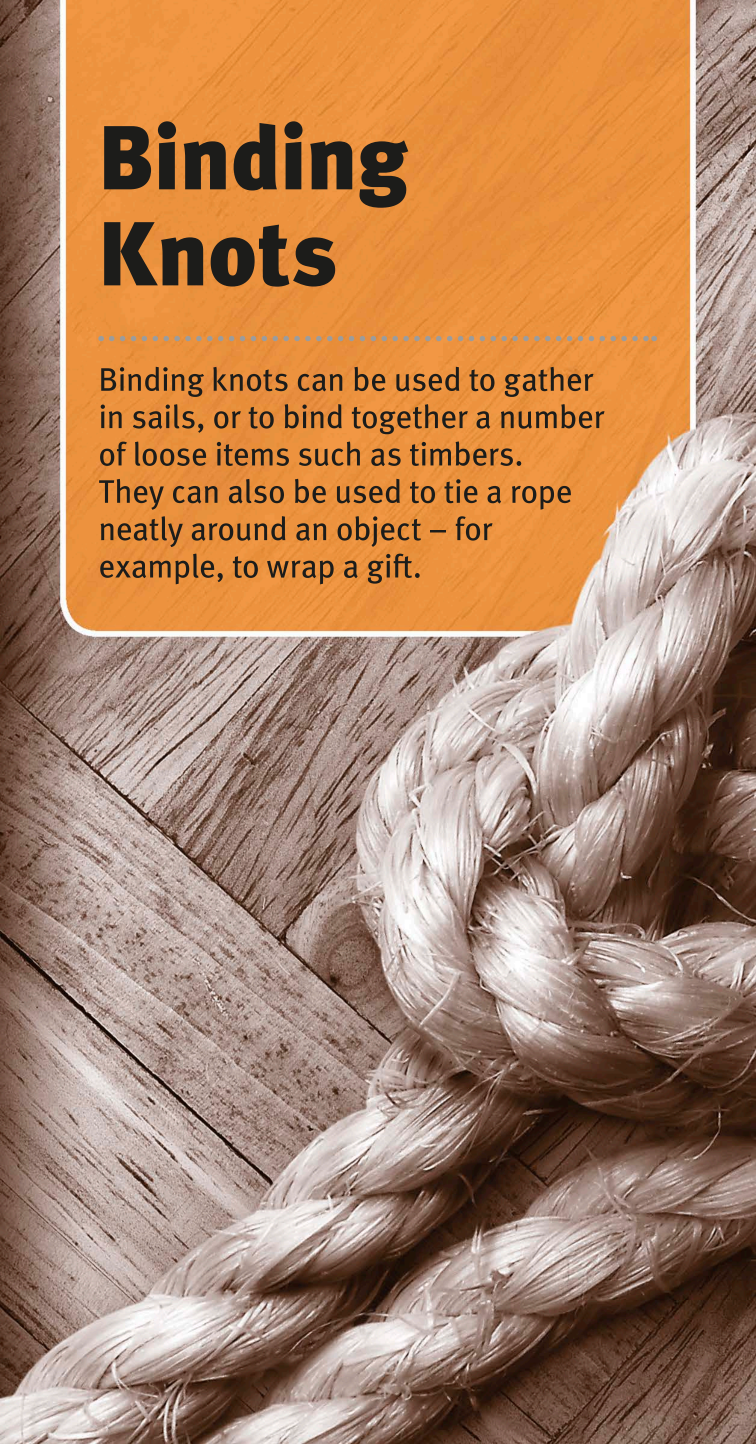


17

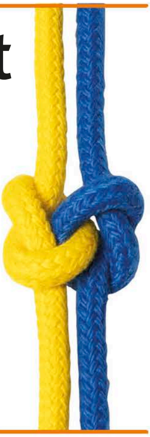

Tighten to finish

Binding Knots

Binding knots can be used to gather in sails, or to bind together a number of loose items such as timbers. They can also be used to tie a rope neatly around an object – for example, to wrap a gift.

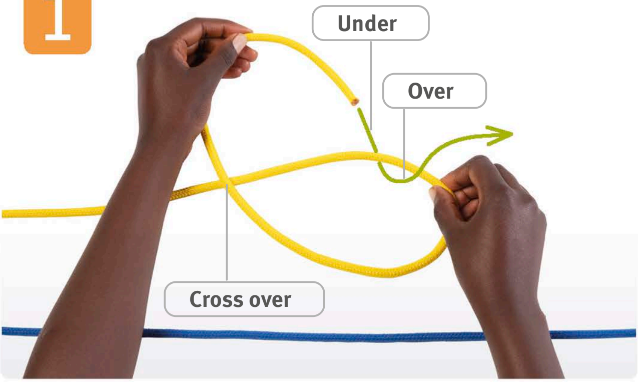


True Lover's Knot

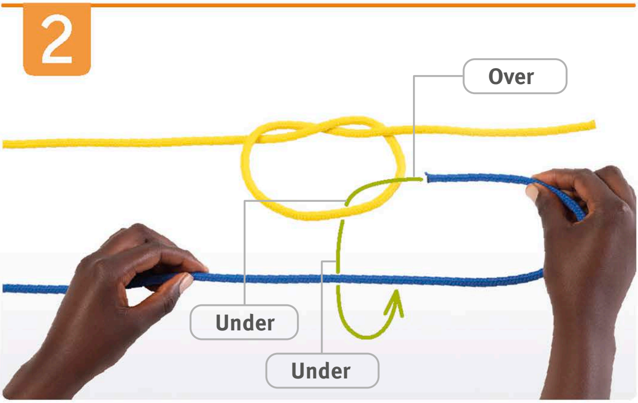


- A knot that symbolizes two people joined in love, sometimes found on a ring.
- Links two pieces of rope using interlocking Overhand Knots (*see pp.28–29*).
- The Overhand Knots should mirror each other perfectly.

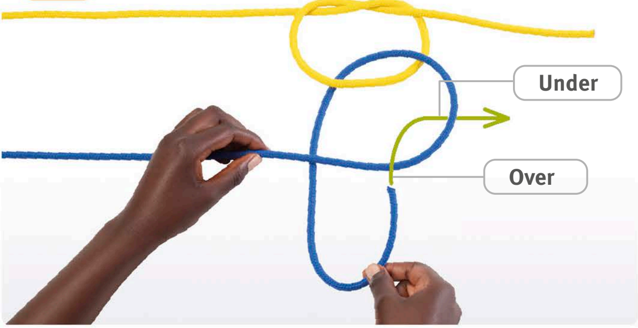
1


Under
Over
Cross over

2


Over
Under
Under

3



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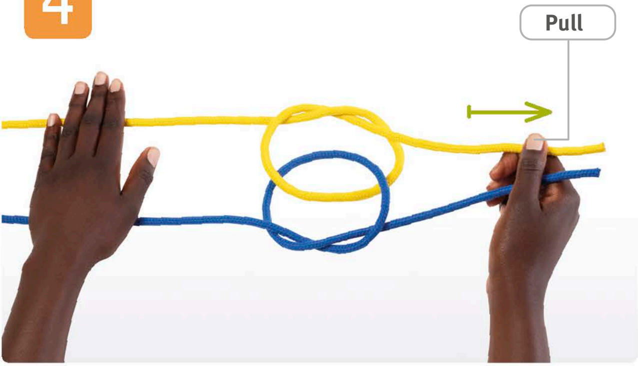

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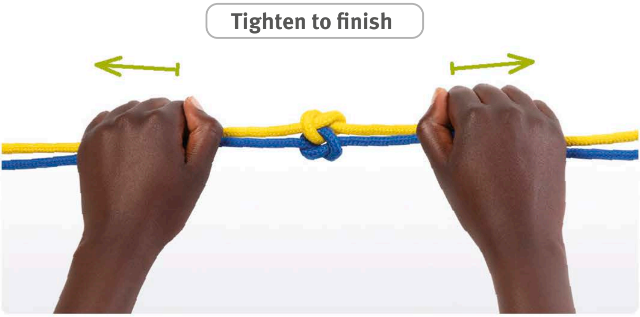
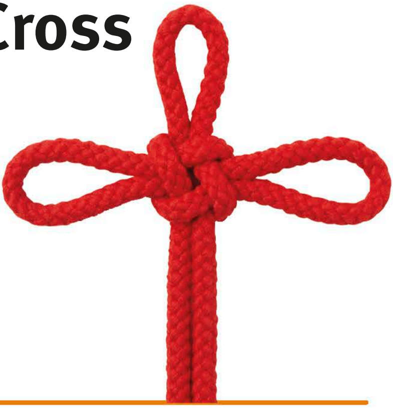

Tighten to finish

Sailor’s Cross

- A decorative knot that symbolizes good luck.
- Developed from the True Lover’s Knot (*see pp.80–81*).



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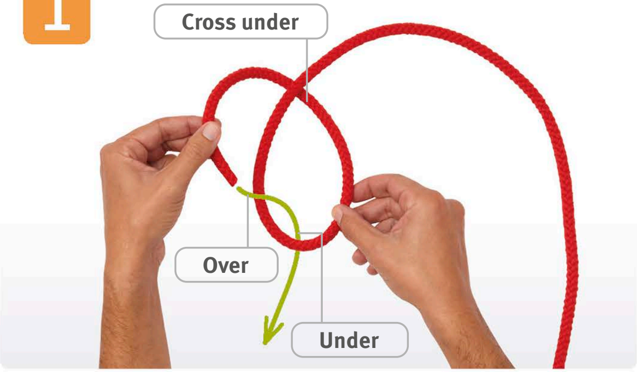
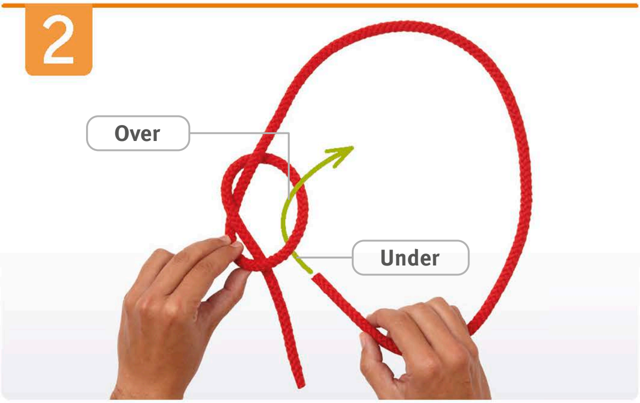

Cross under
Over
Under

2



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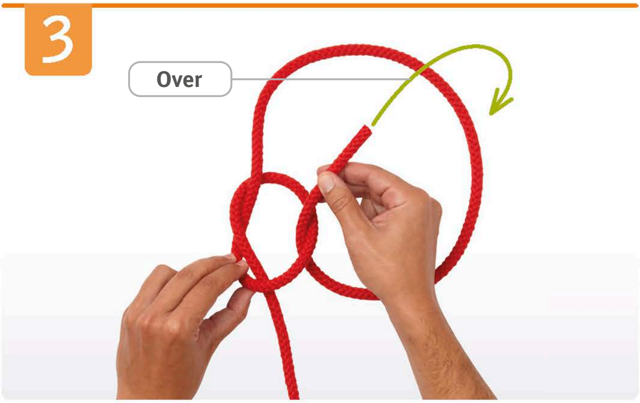
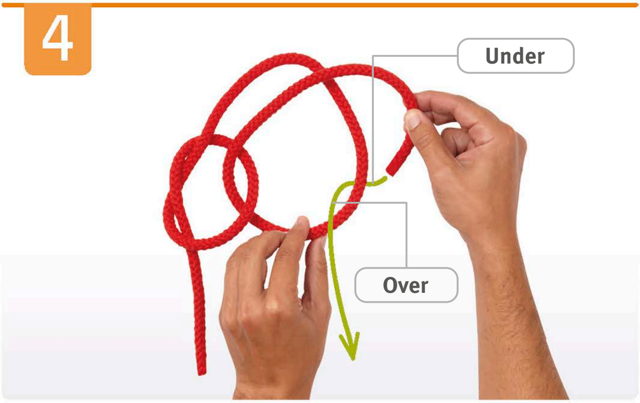
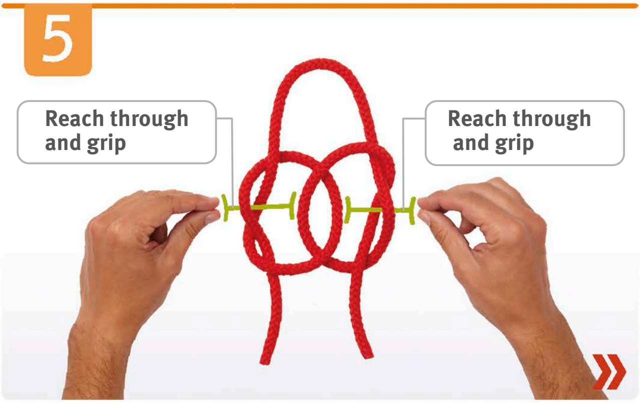

Over

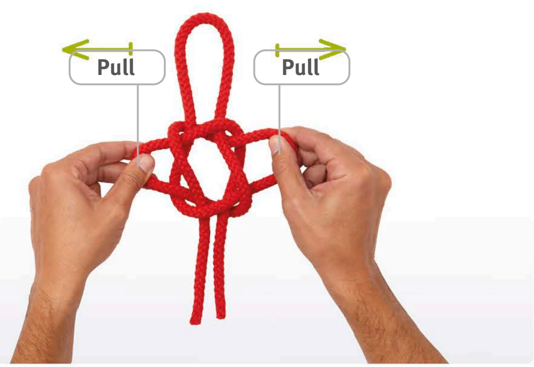
4


Under
Over

5


Reach through and grip
Reach through and grip

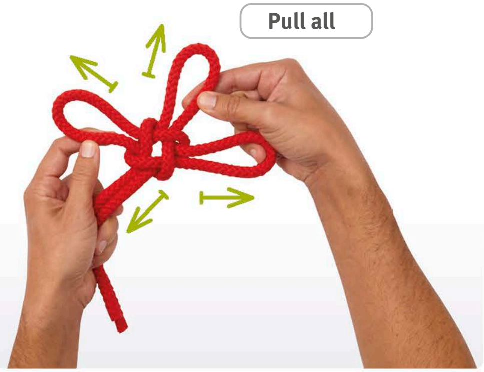
6



Pull

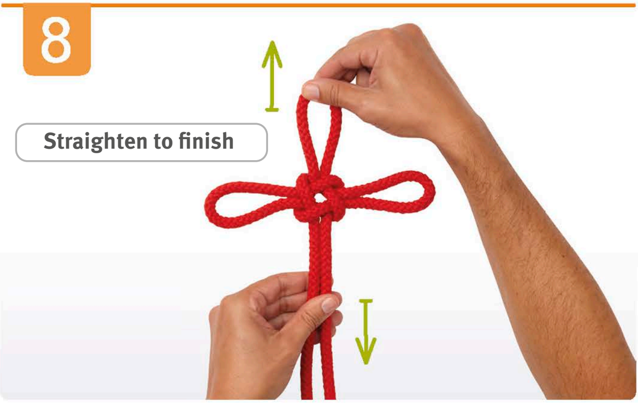
Pull

7



Pull all

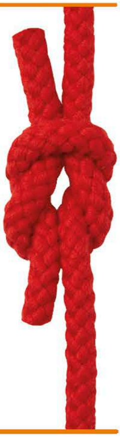
8



Straighten to finish

Reef Knot

- A simple binding knot for securing a rope around an object.
- Derives its name from being tied around a bundle of sail.
- Also known as the Square Knot.



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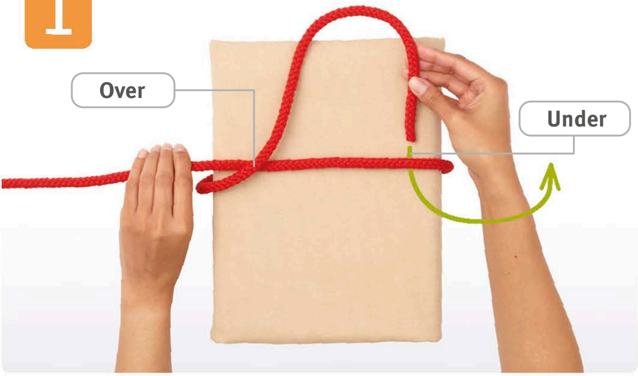

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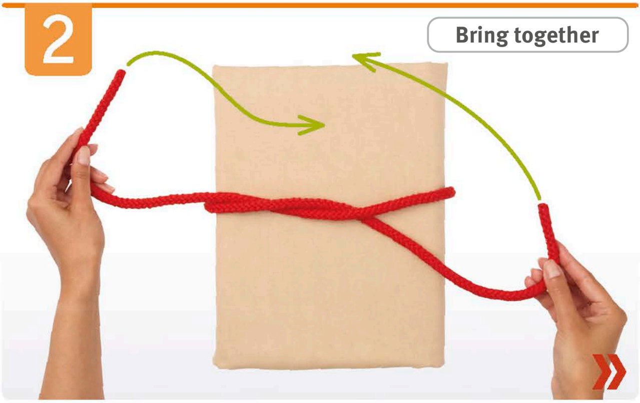
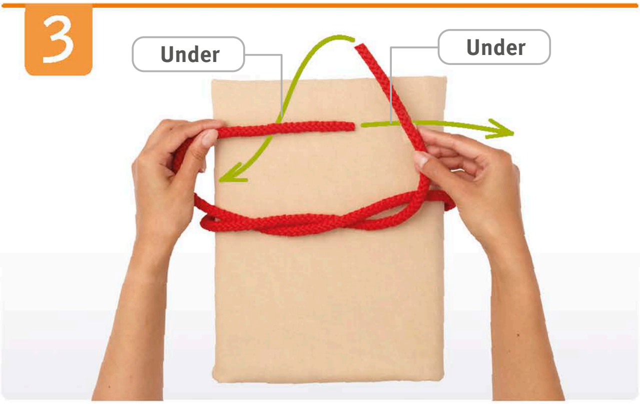
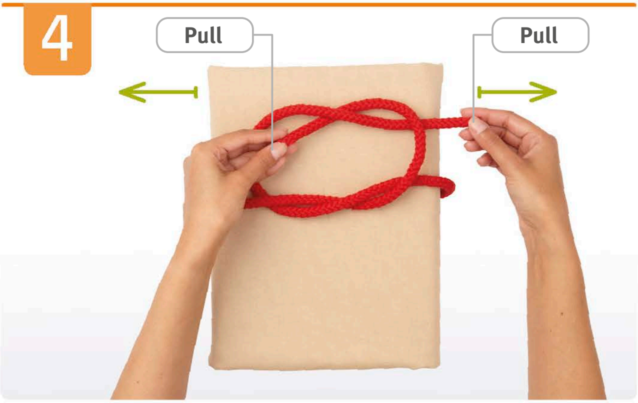

Bring together

3


Under
Under

4



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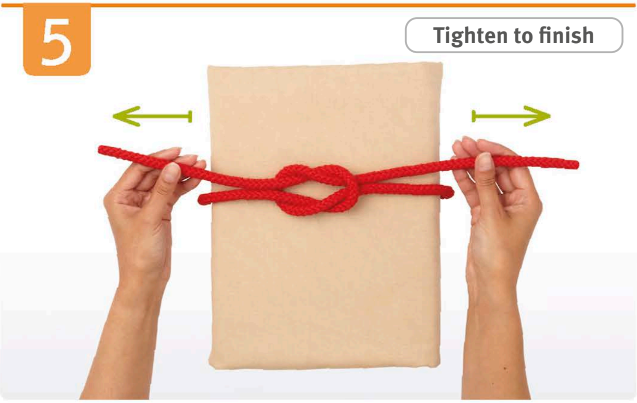
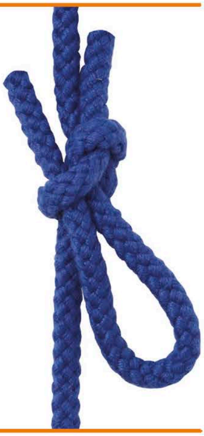

Tighten to finish

Slipped Reef Knot

- A quick-release version of the Reef Knot (*see pp.85–86*).
- Start with a long working end to ensure there is enough rope to form a bight.
- Can be undone by tugging on the short end of the bight.



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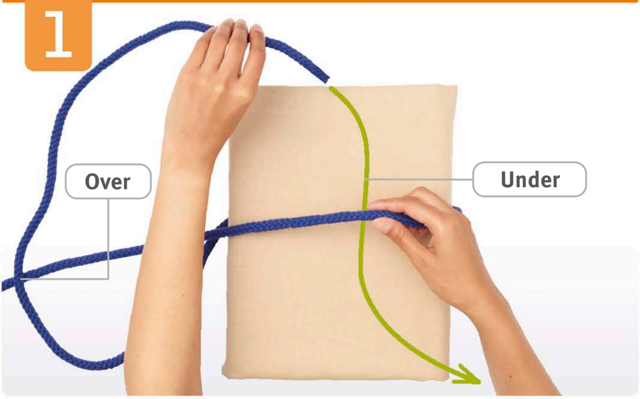

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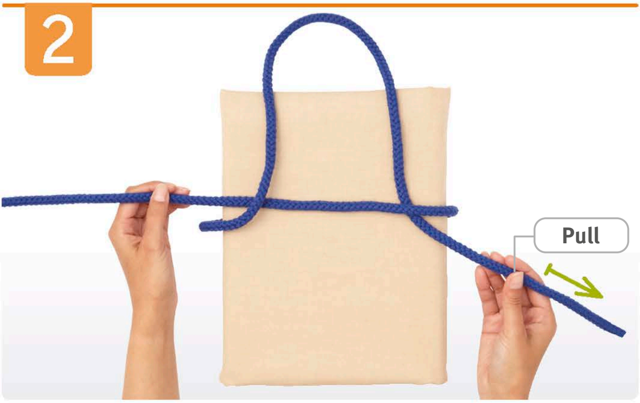

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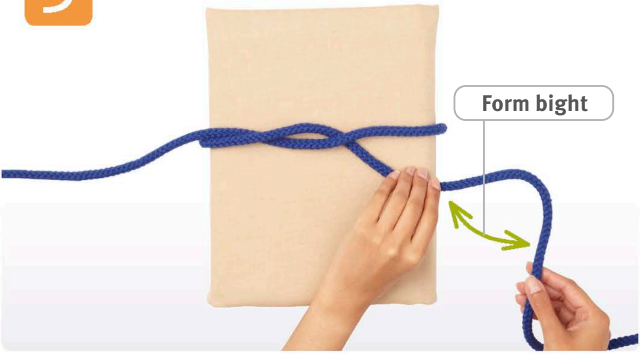

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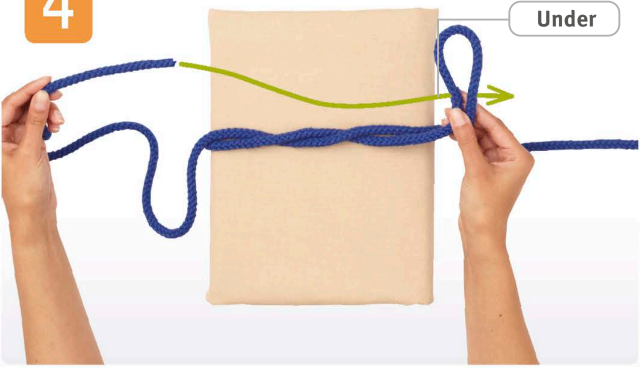

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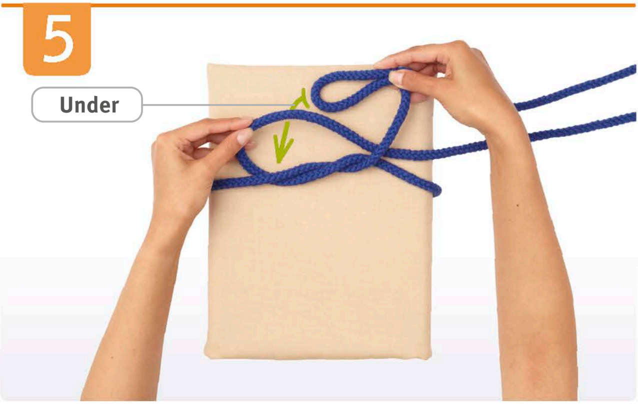

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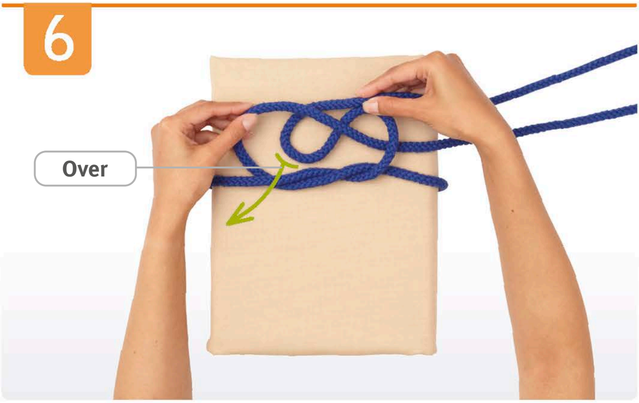

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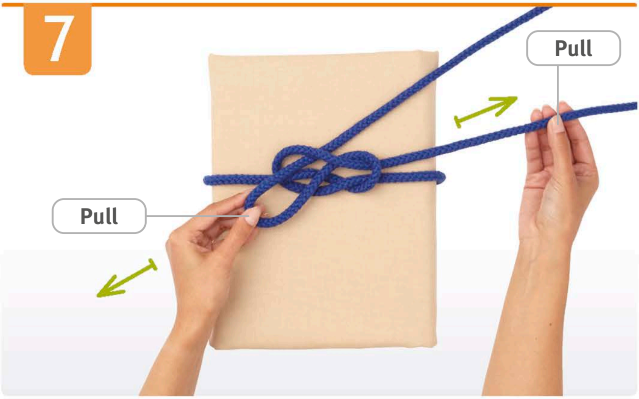

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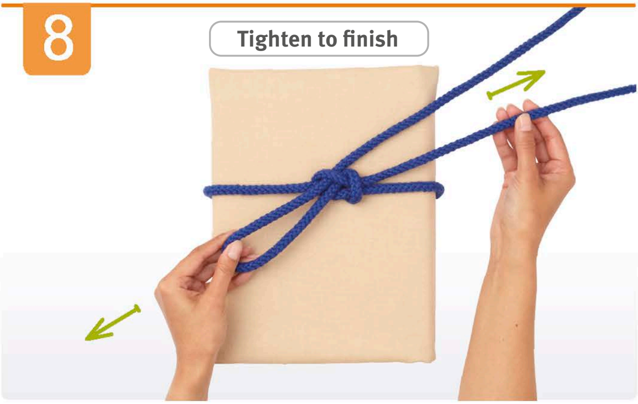
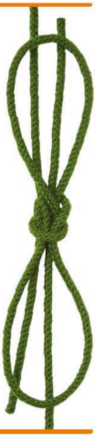
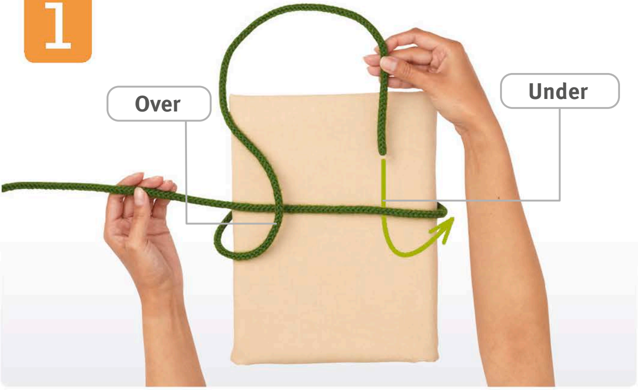

Tighten to finish

Slipped Reef Knot Doubled



- Commonly used for tying shoelaces.
- Can also be tied with ribbon to make a bow around a package.
- Formed with two bights.

1



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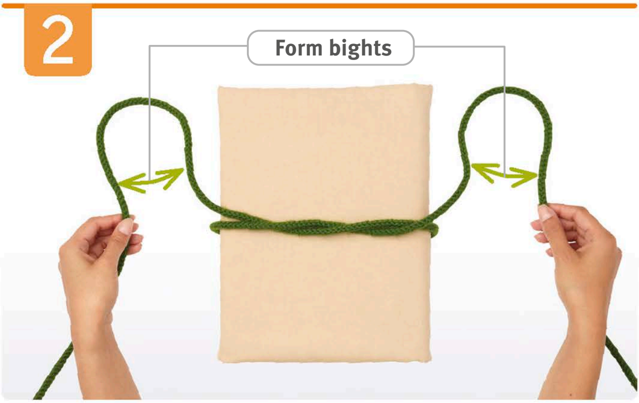
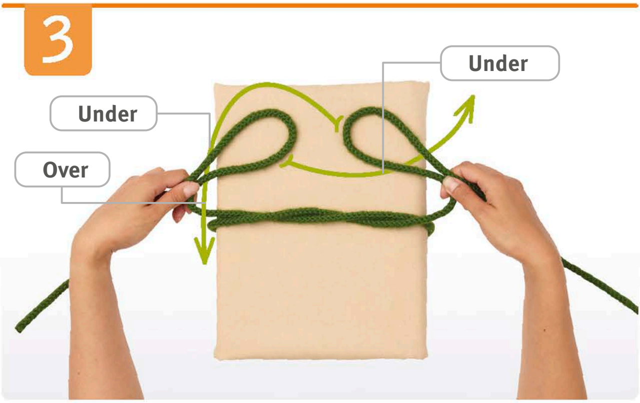
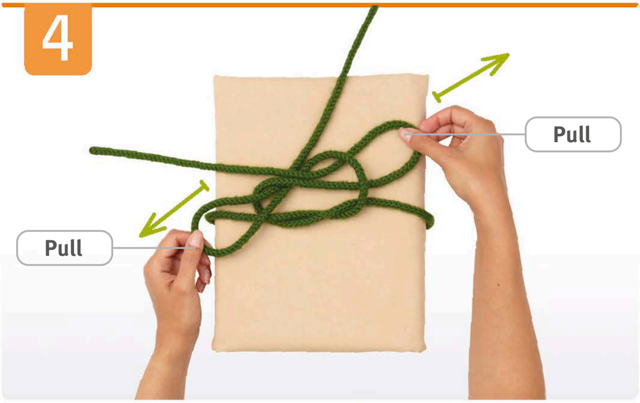

Form bights

3


Under
Under
Over

4



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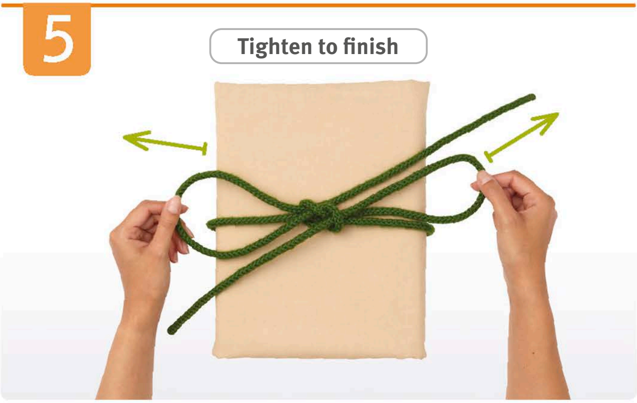
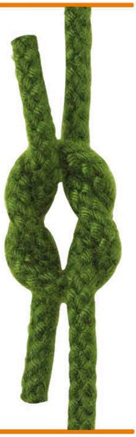

Tighten to finish

Granny Knot

- An incorrectly formed version of the Reef Knot (*see pp.85–86*) – does not have the same square form.
- Not as stable as the Reef Knot – may slip or jam.



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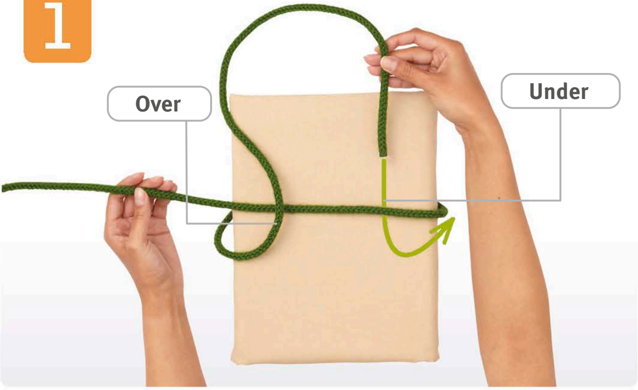

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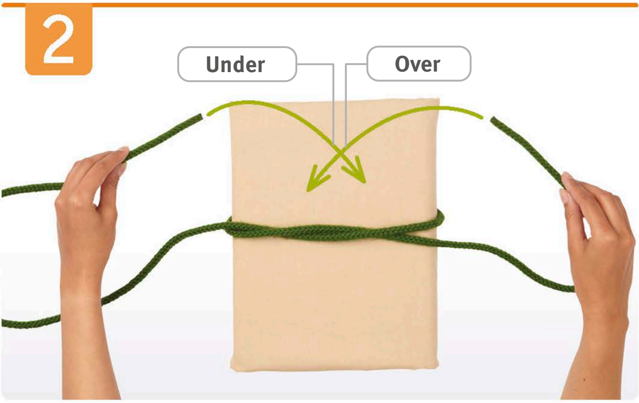

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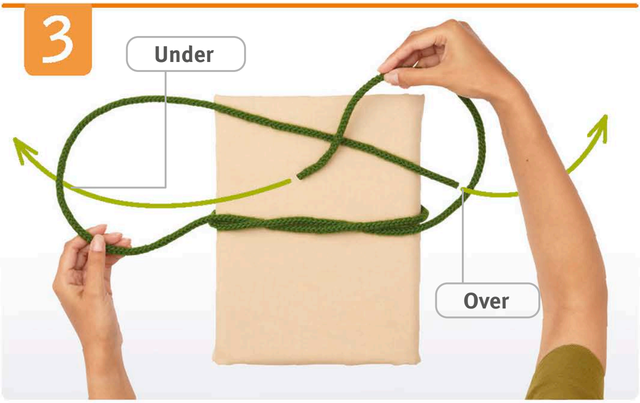

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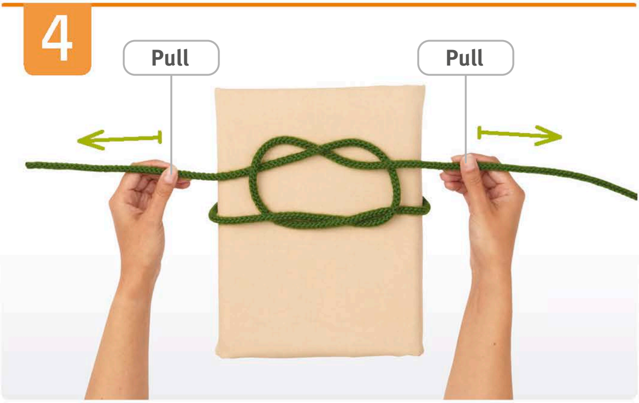

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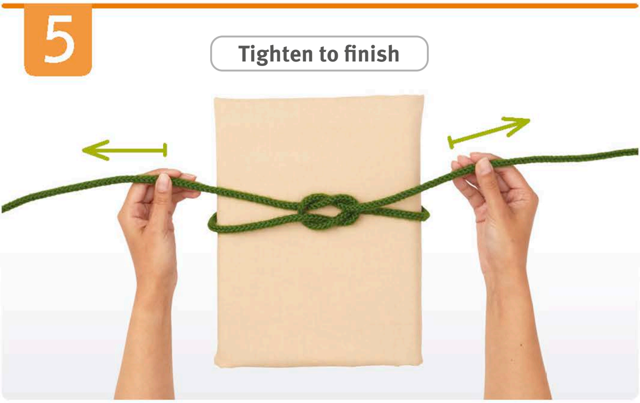
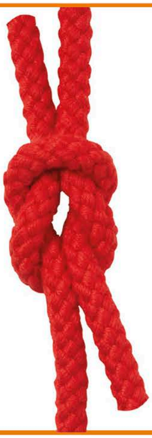
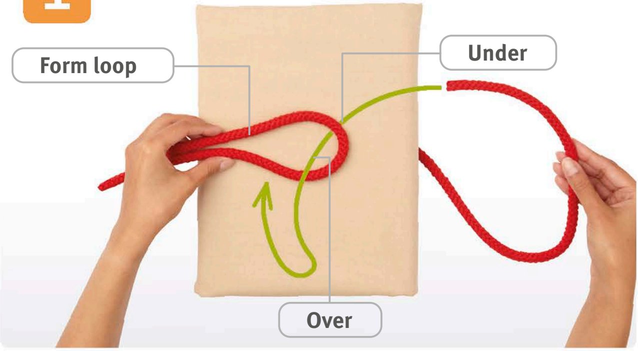

Tighten to finish

Thief Knot



- An unusual binding knot used to secure a rope or line around an object.
- Easily confused with, although much less secure than, the Reef Knot (*see pp.85–86*).
- Historically used by sailors to safeguard their bags – a thief would be likely to simply retie the bag using a Reef Knot and thus betray their presence.

1



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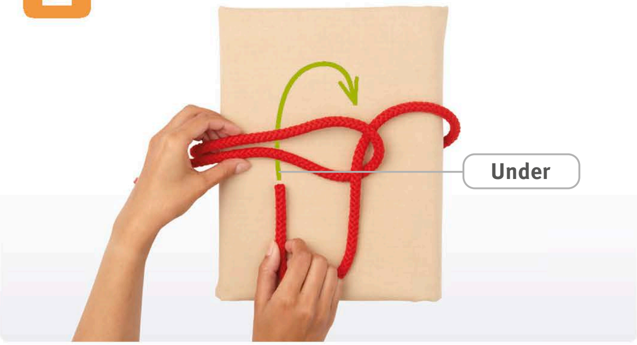

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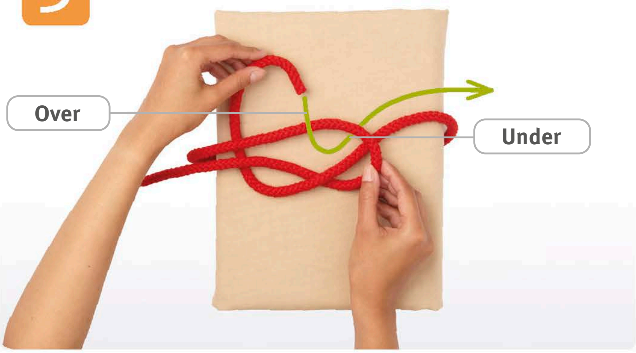

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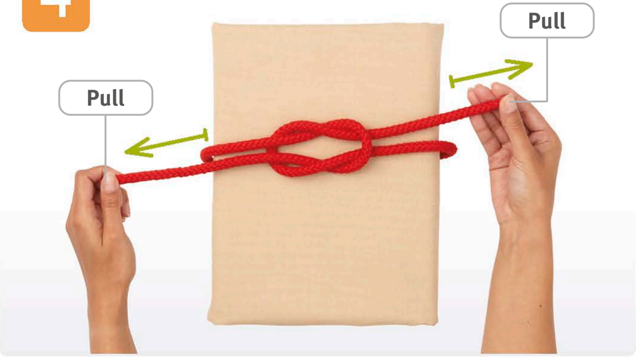

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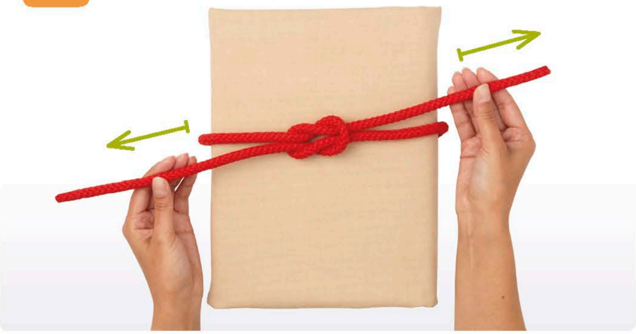
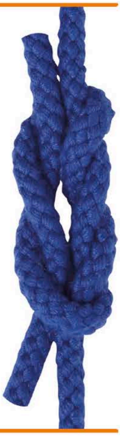
Tighten to finish



Surgeon’s Knot

- A binding knot used by surgeons to tie sutures.
- Can also be tied around a bundle.
- If working with a bundle, draw it together by tightening the first two tucks before finishing the knot.
- The extra tuck holds the knot tight while the process is completed.



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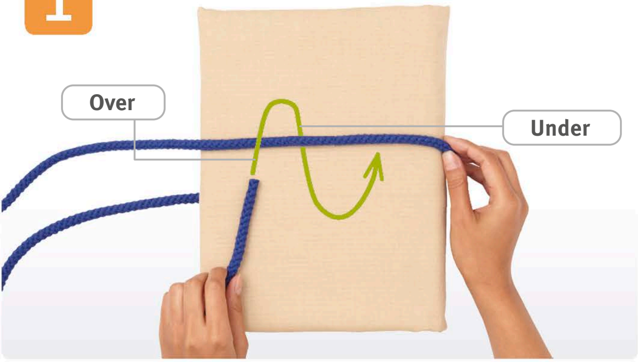

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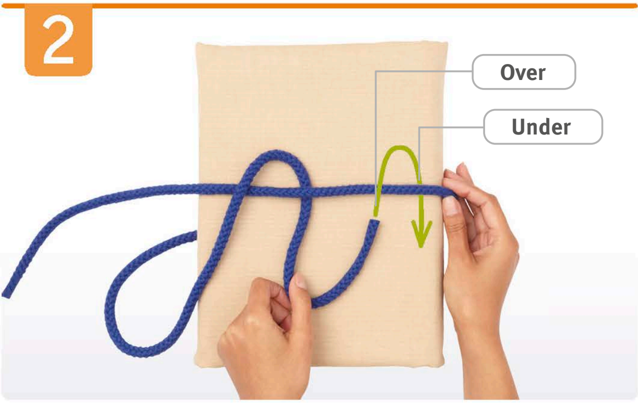

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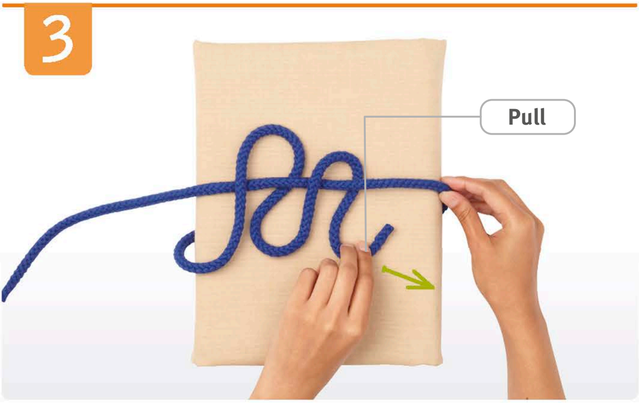

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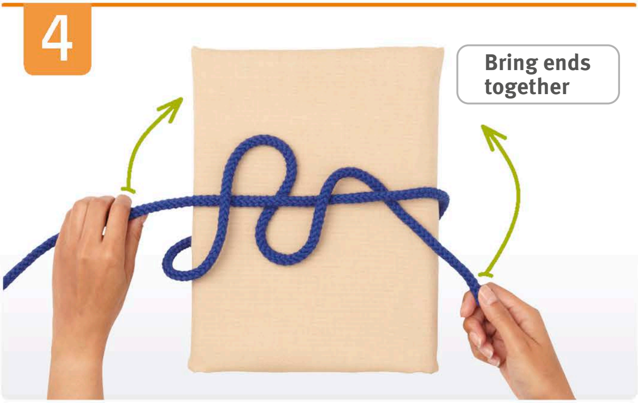
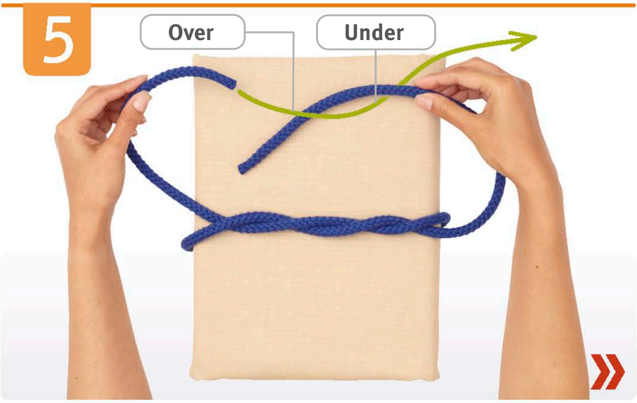

Bring ends together

5



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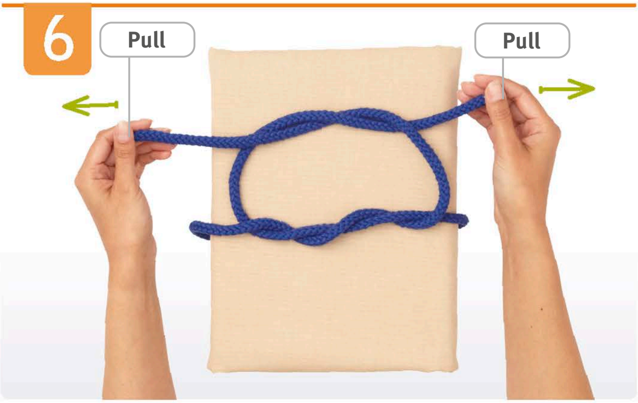

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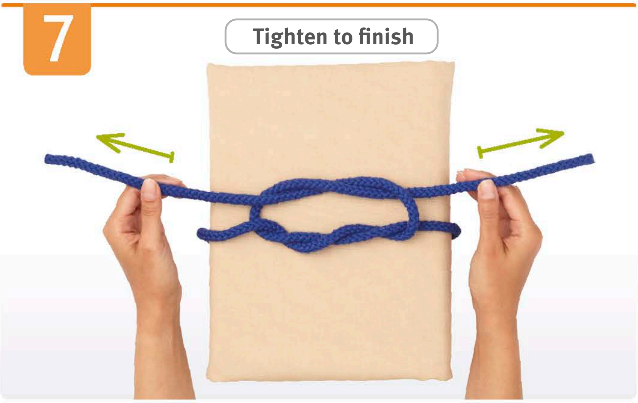
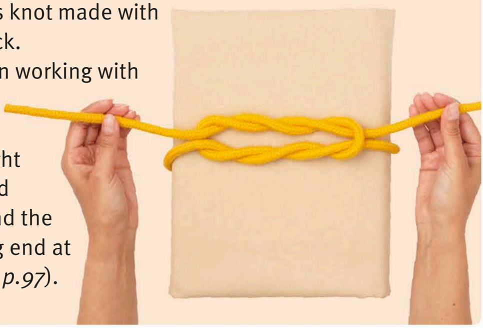

Tighten to finish

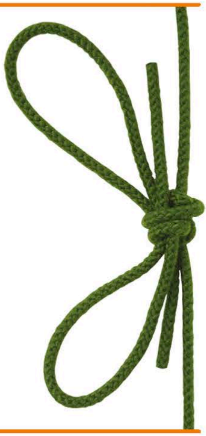
Surgeon’s Knot with Second Tuck

- A surgeon’s knot made with an extra tuck.
- Useful when working with slippery rope.
- Tuck the right working end twice around the left working end at Step 5 (*see p.97*).



Turquoise Turtle

- The perfect knot for tying shoelaces.
- Rarely comes undone.
- Contains elements of the Reef Knot (*see pp.85–86*) and the Surgeon's Knot (*see pp.96–98*).
- To undo, pull the short ends.



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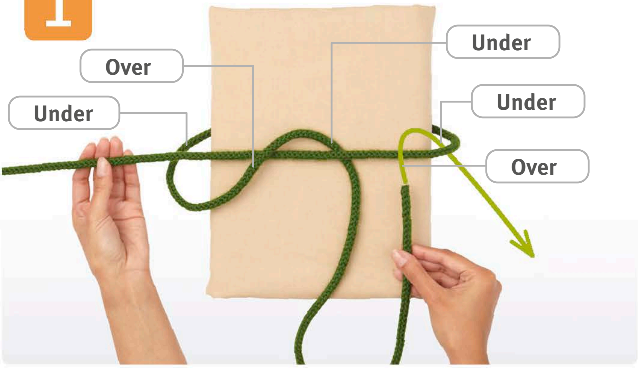
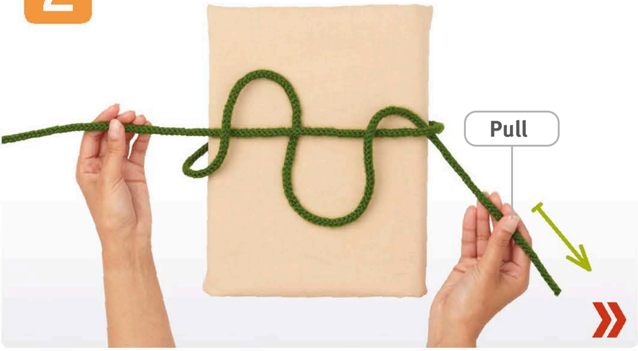

Over
Under
Under
Under
Over

2



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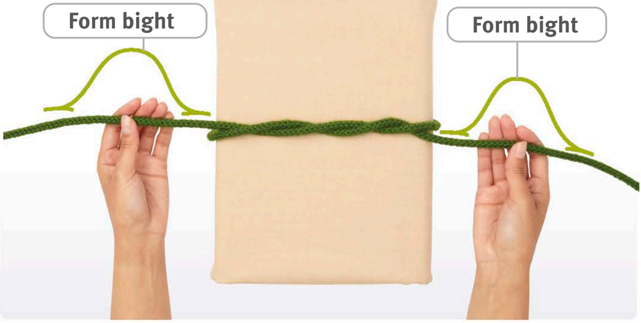
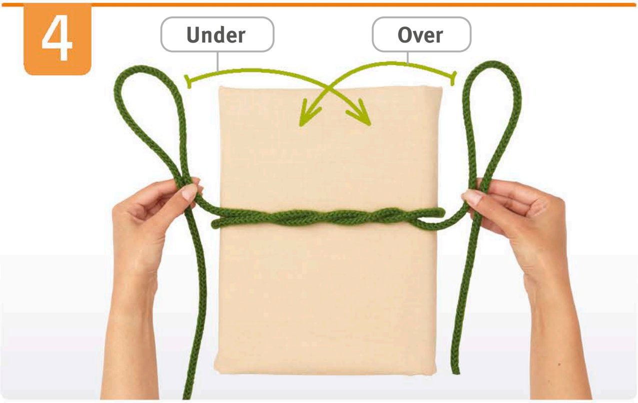

Form bight
Form bight

4



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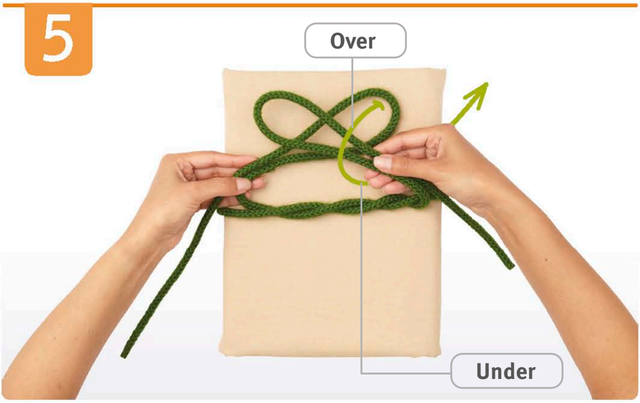

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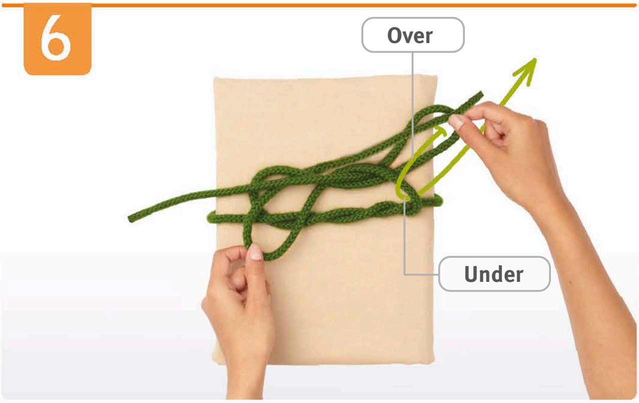

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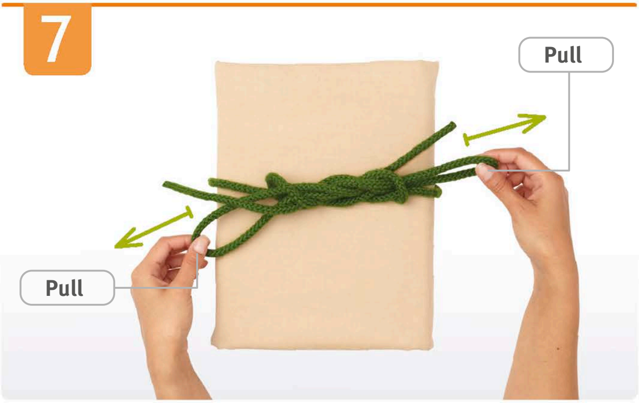

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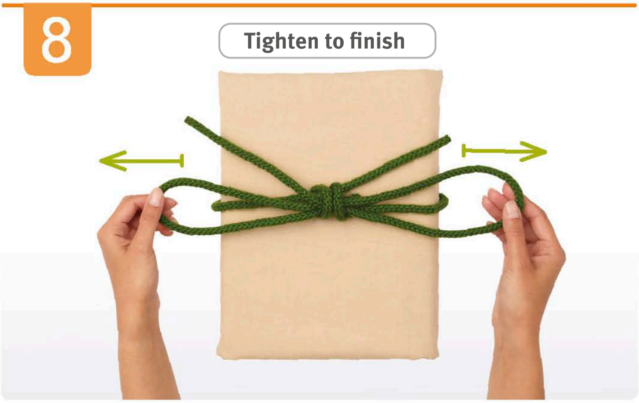
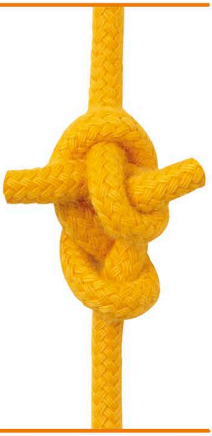

Tighten to finish

Packer's Knot

- Used to tie up a parcel or draw together a loose bundle or package.
- Based on the Figure of Eight (*see pp.38–39*).
- Secure with a half hitch (*see p.23*).



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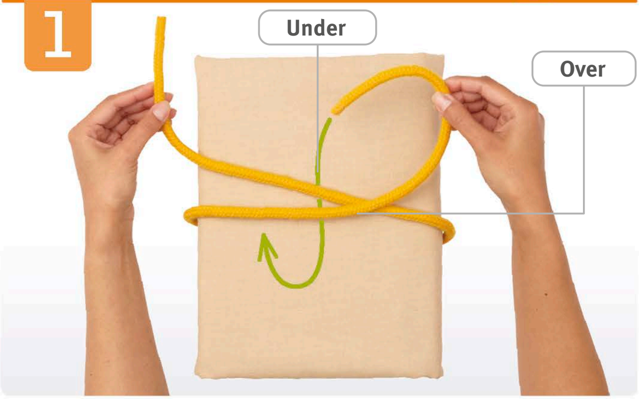

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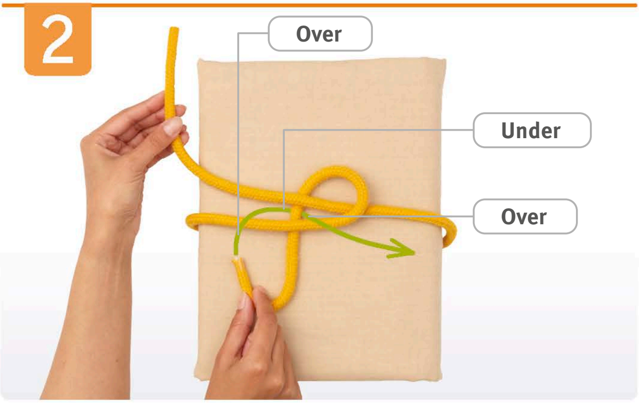
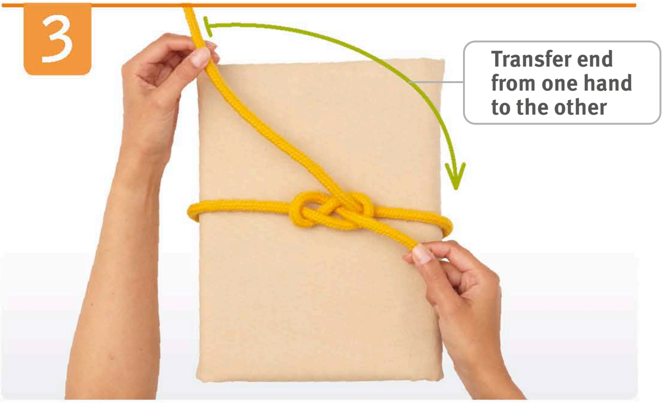
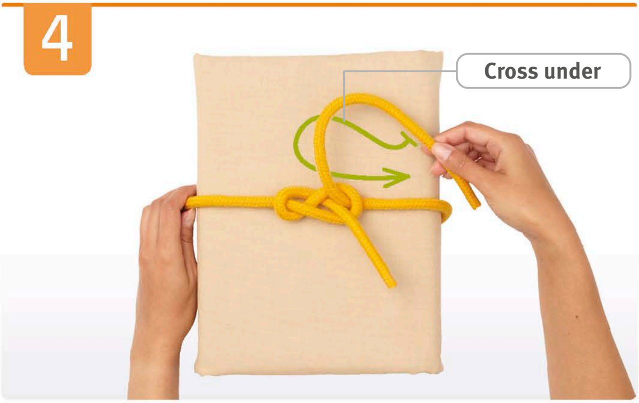

Over
Under
Over

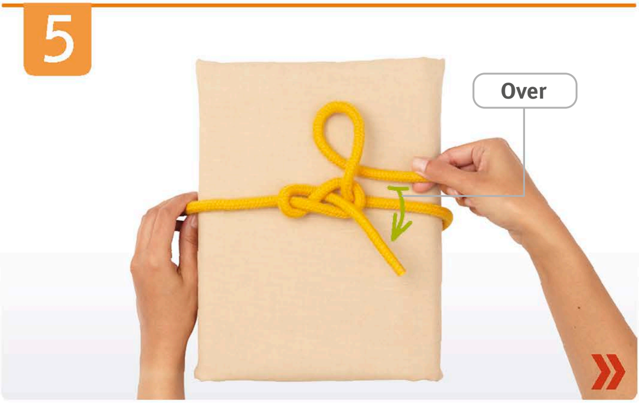
3


Transfer end from one hand to the other

4


Cross under

5



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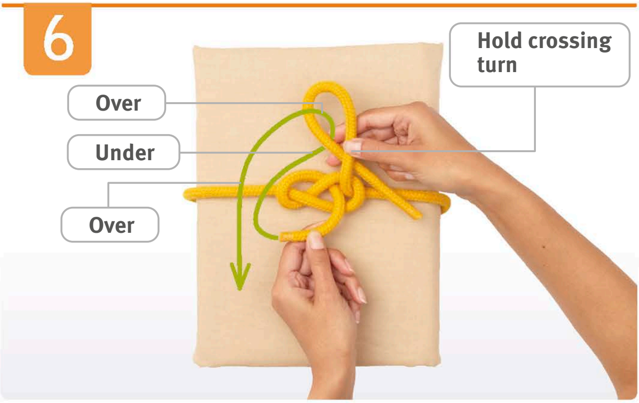
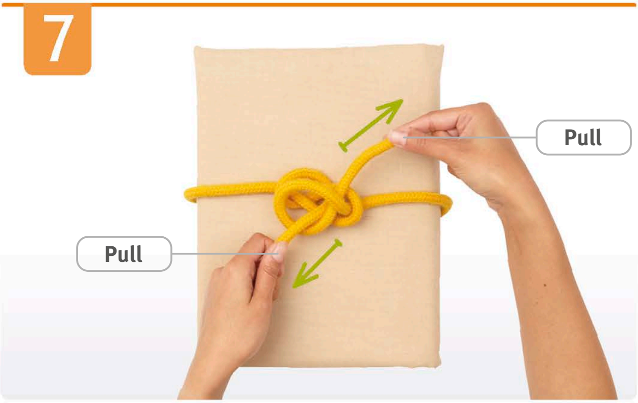
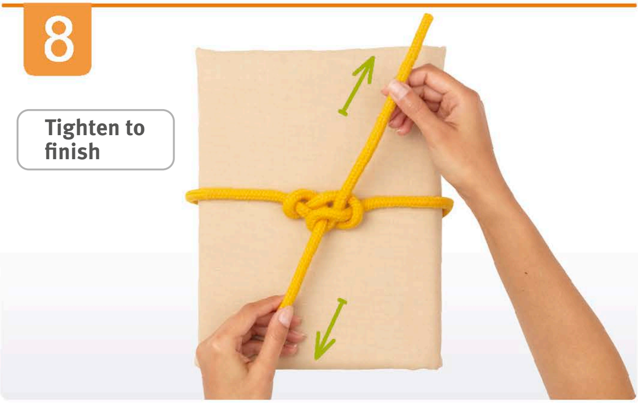

Hold crossing turn
Over
Under
Over

7

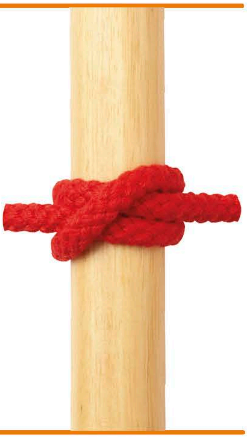

Pull
Pull

8


Tighten to finish

Clove Hitch

- A common, simple binding knot used when only one end of a rope is available to work with.
- Made from two half hitches (*see p.23*), both passed in the same direction.
- Used in most lashings (*see pp.211–24*).



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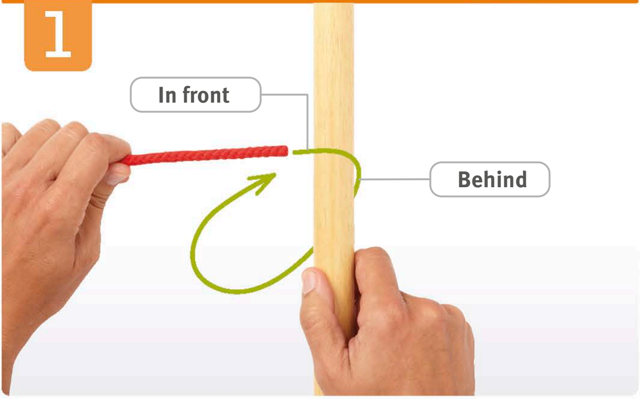
In front
Behind

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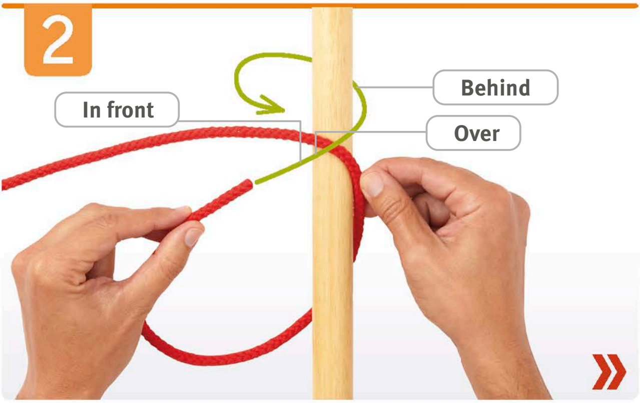
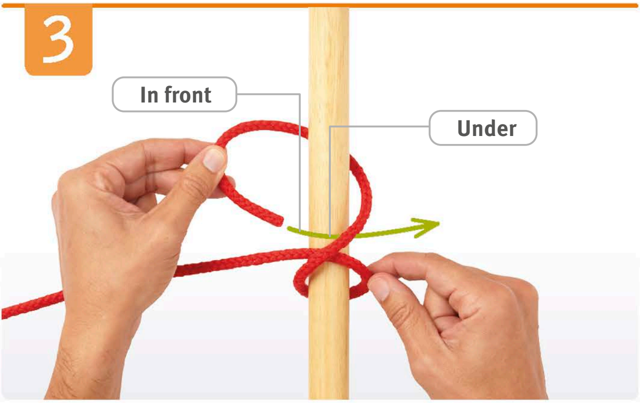
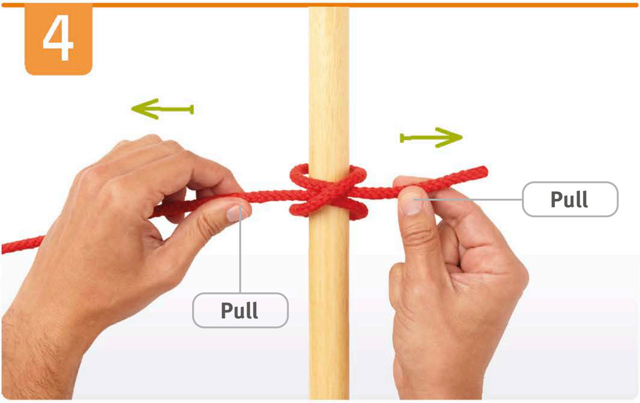

In front
Behind
Over

»

3


In front
Under

4



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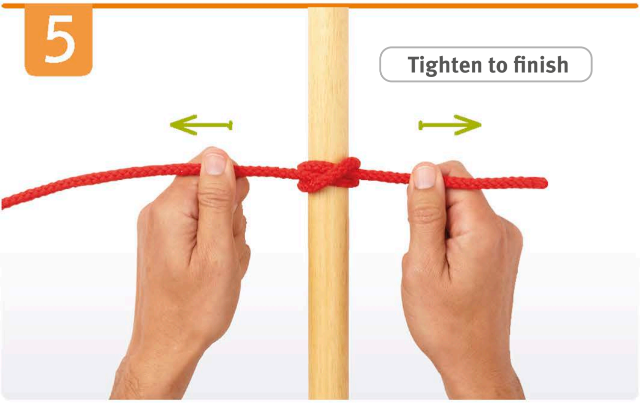
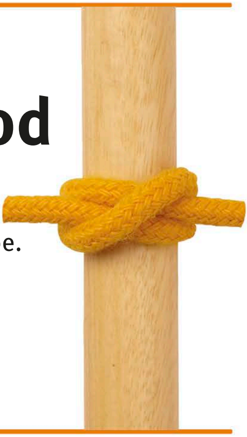
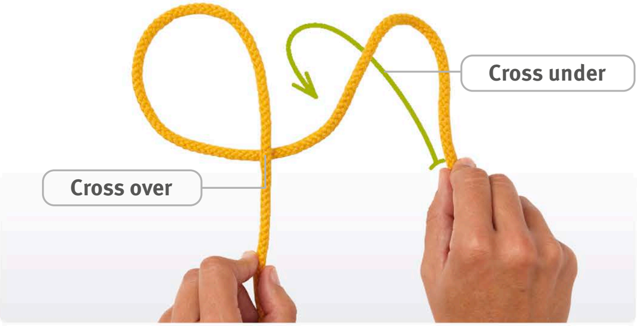

Tighten to finish

Clove Hitch – Second Method

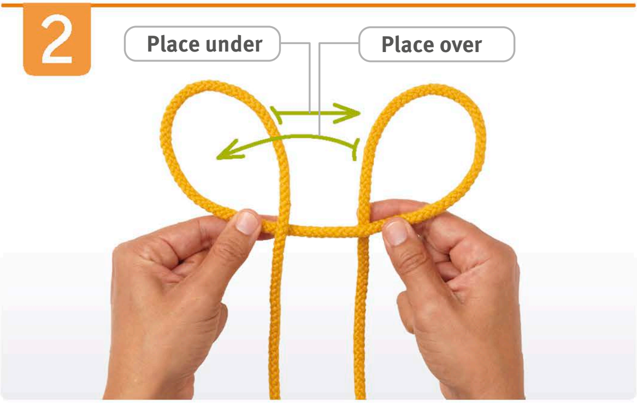


- A common binding knot that is quick to tie.
- Can be tied in the middle of the rope.
- Made from two half hitches (*see p.23*), both passed in the same direction.
- Not completely secure – may work loose under strain.

1

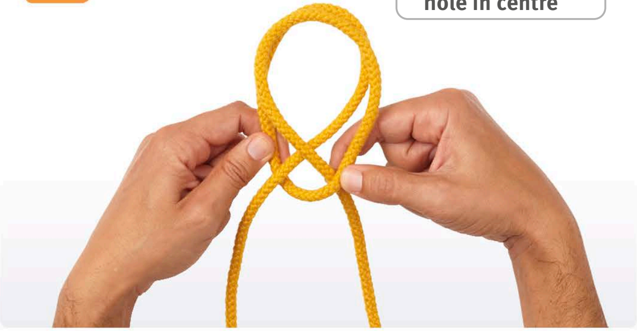

Cross under
Cross over

2


Place under
Place over

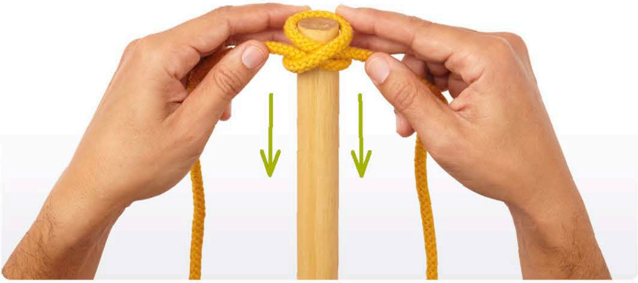
3

Arrange to form hole in centre



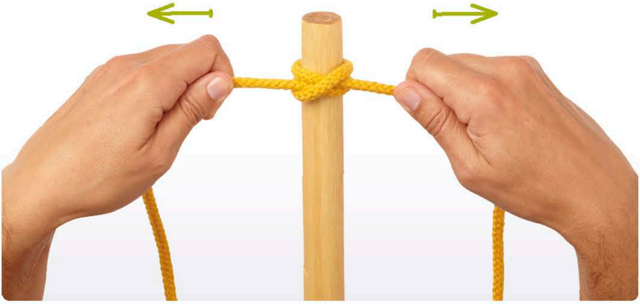
4

Lower onto pole



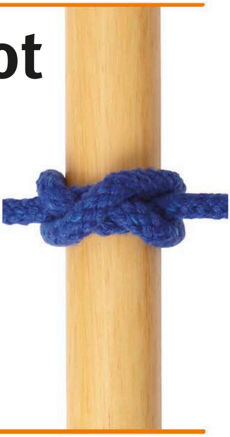
5

Tighten to finish



Constrictor Knot

- Makes a good temporary whipping (*see p.14*) or seizing (*see p.25*).
- Simple to tie but difficult to untie.
- Works best when tied in thin line.



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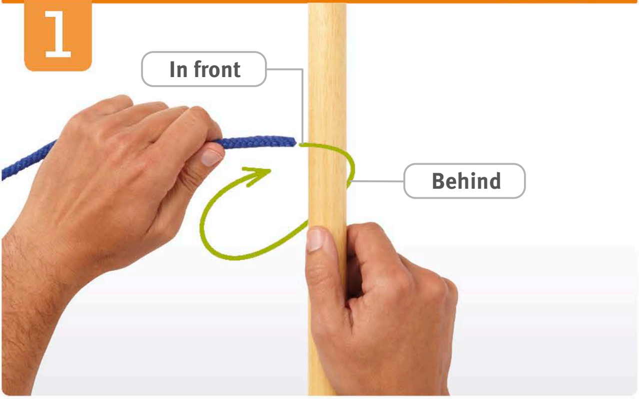
In front
Behind

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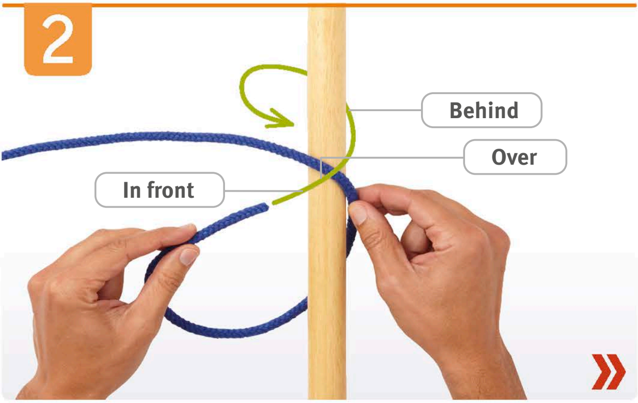
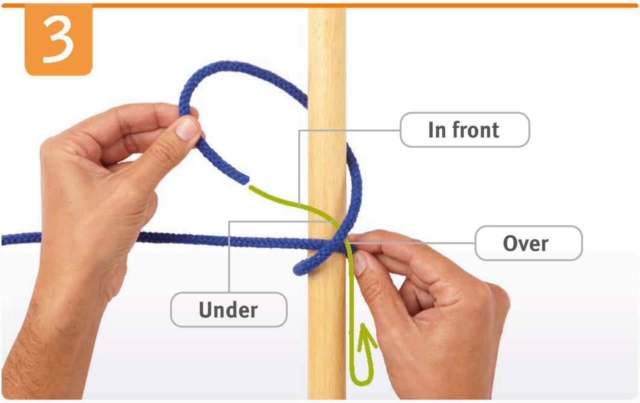
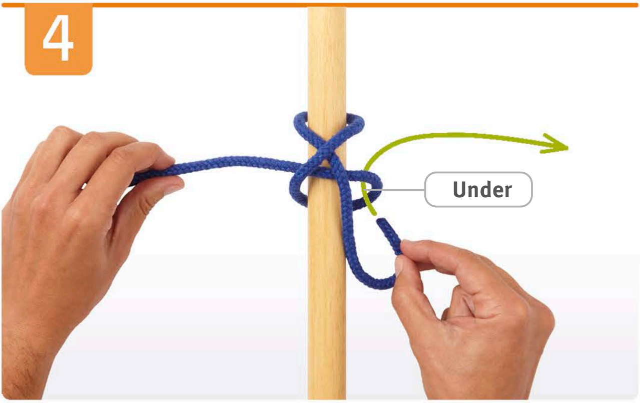

Behind
Over
In front

»

3


In front
Over
Under

4



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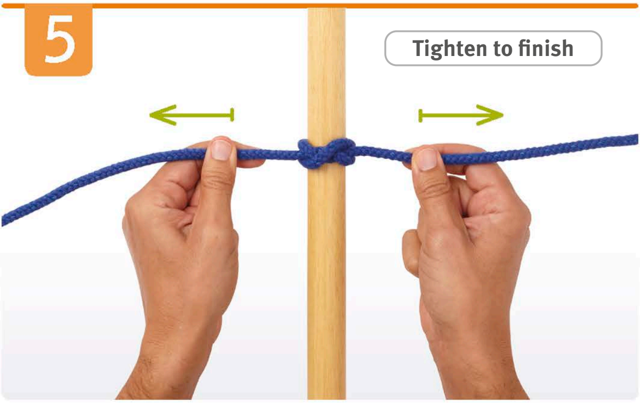
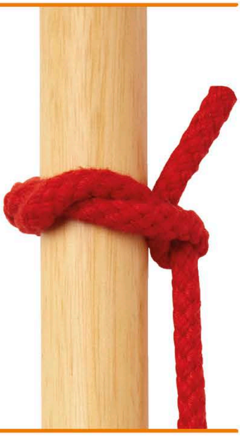

Tighten to finish

Timber Hitch

- Tied around a log or a bundle of timber.
- The harder the final pull, the tighter and more secure the knot becomes.
- The starting point for a Diagonal Lashing (*see pp.215–17*).



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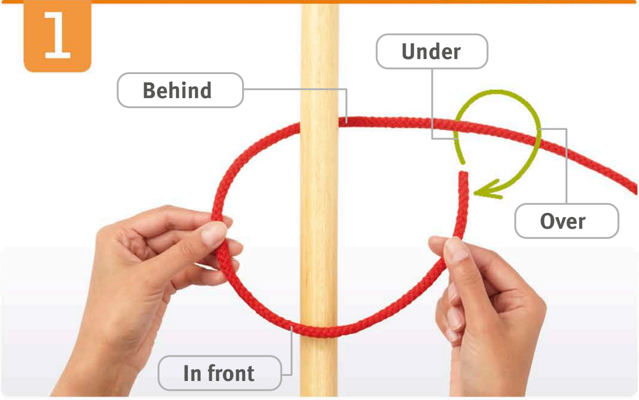
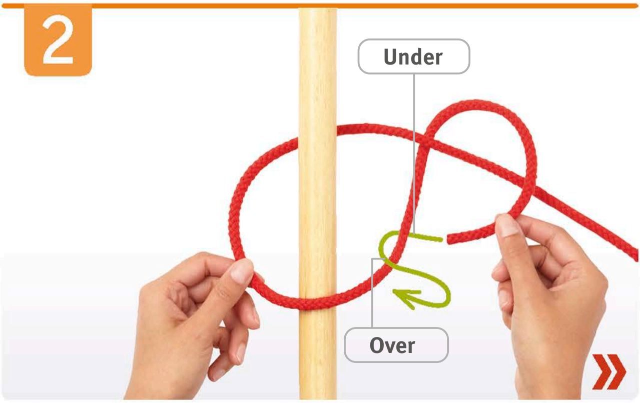

Under
Behind
Over
In front

2



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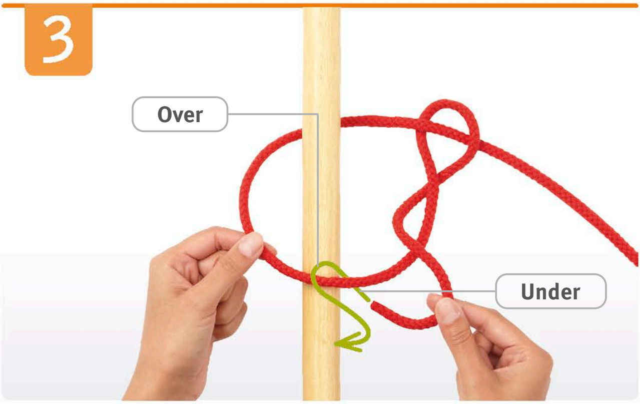

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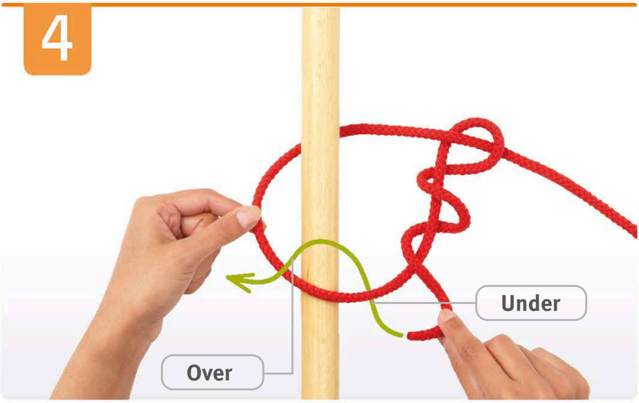

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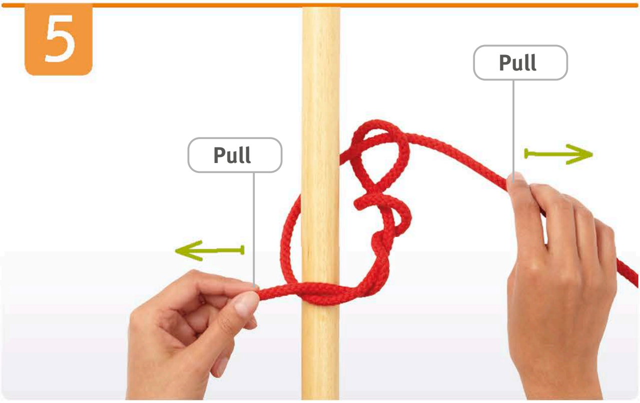

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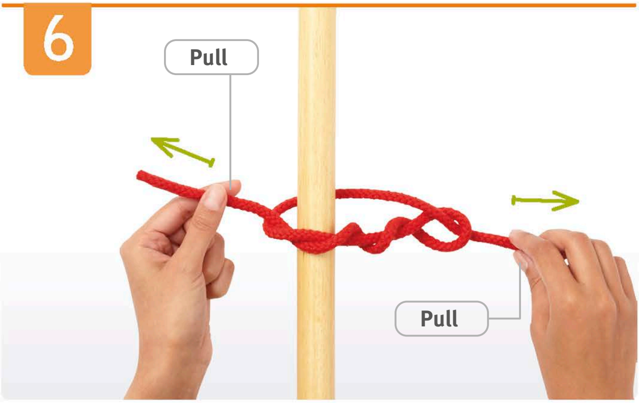

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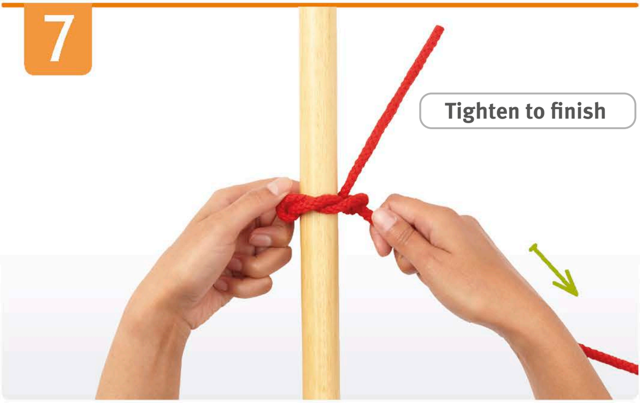
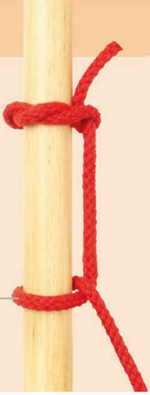
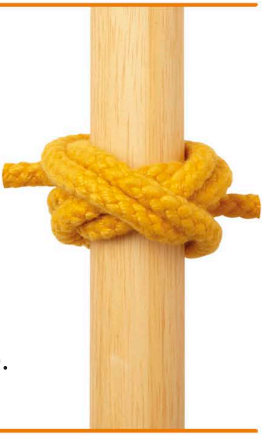

Tighten to finish

Pulling a Pole

- An extra half hitch (*see p.23*) can be added to the pole if it is to be dragged through water or across land.
- The half hitch prevents the pole from swaying around when it is moved.

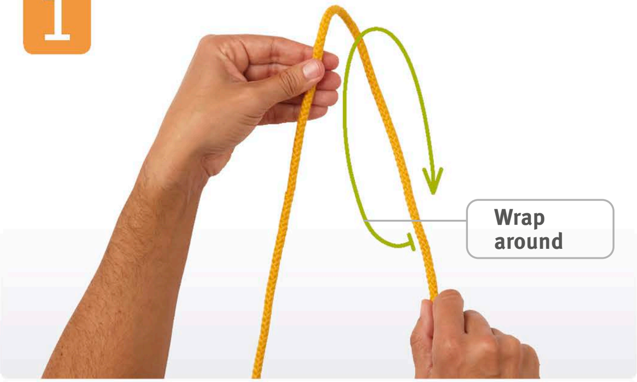

Finish with half hitch

Boa Knot



- Used to secure or tie together cylindrical objects where a decorative as well as a practical knot is required.
- Should only be used when it can be slipped over the end of the object to which it is to be tied.
- Can be used instead of the Constrictor Knot (*see pp.109–10*).

1



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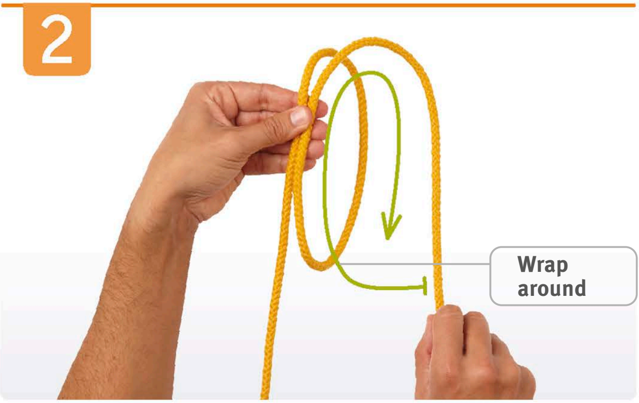

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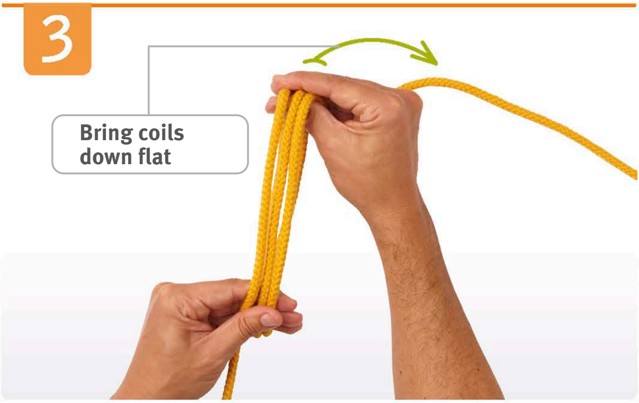
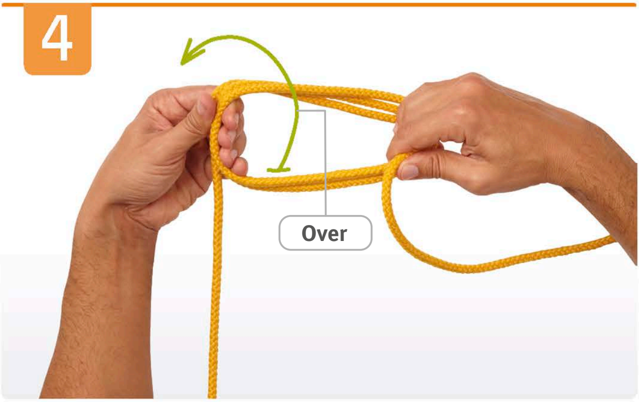


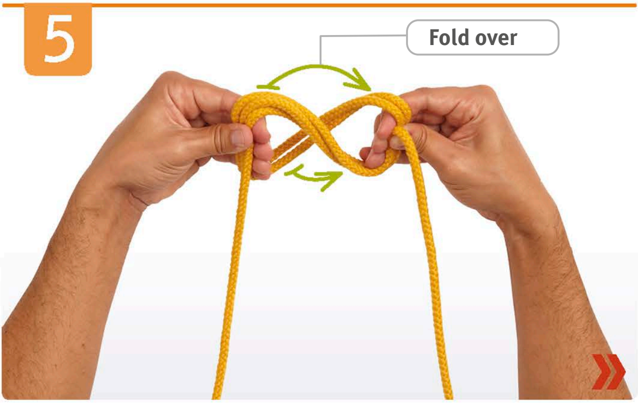
Bring coils down flat

4



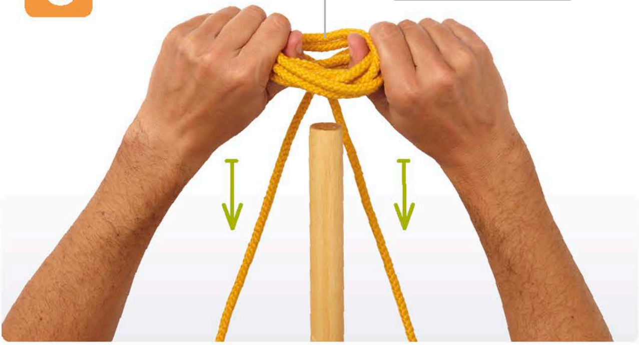
Over

5



Fold over

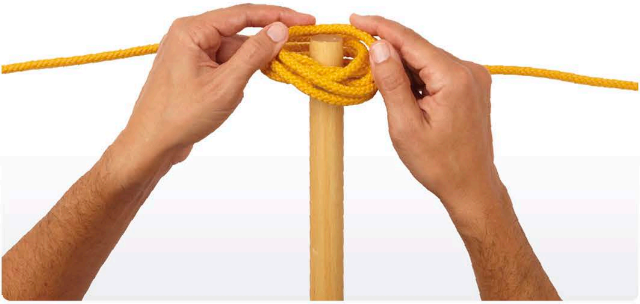
6



Lower over pole

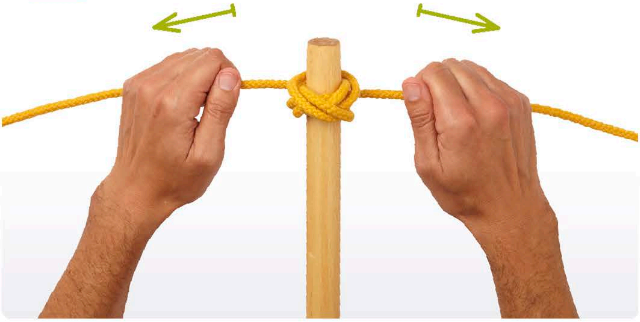
7

Work into shape

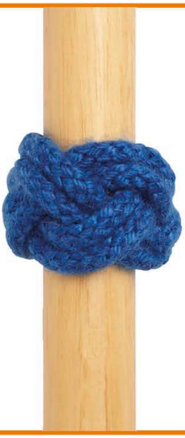


8

Tighten to finish

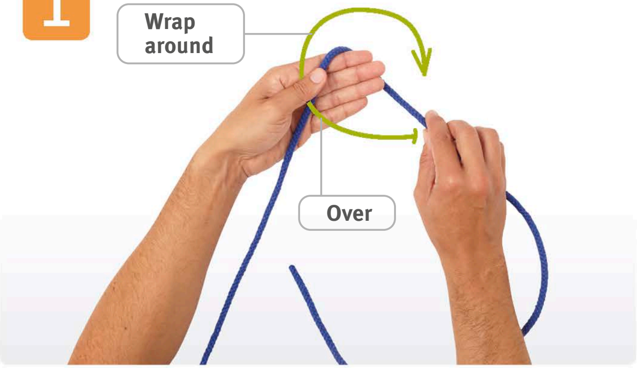


Turk's Head – Three-Lead Four-Bight

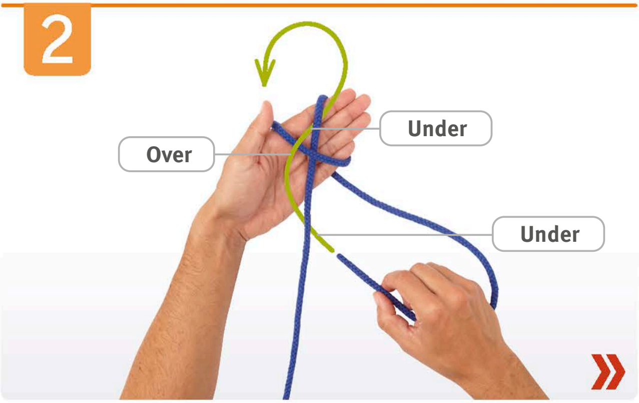


- A decorative knot usually tied around a pole or rail.
- Can also be flattened out into a mat.
- Can be doubled or tripled (*see p.24*).

1

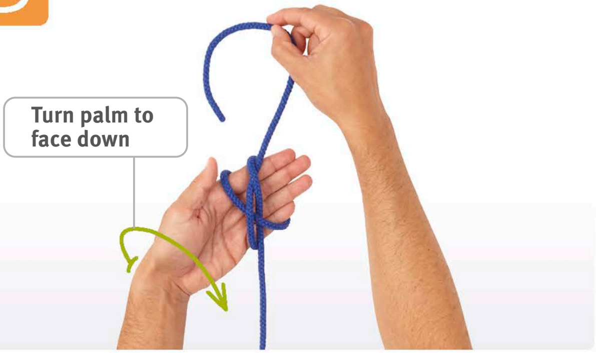

Wrap around
Over

2

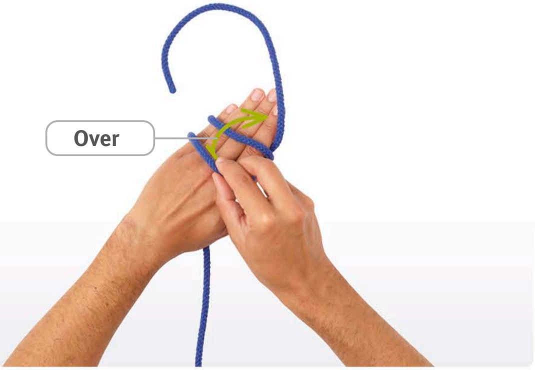

Over
Under
Under

»

3


Turn palm to face down

4



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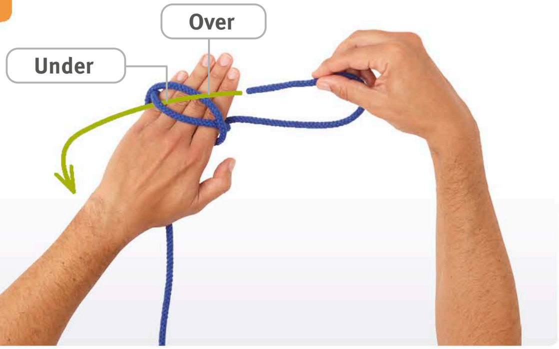

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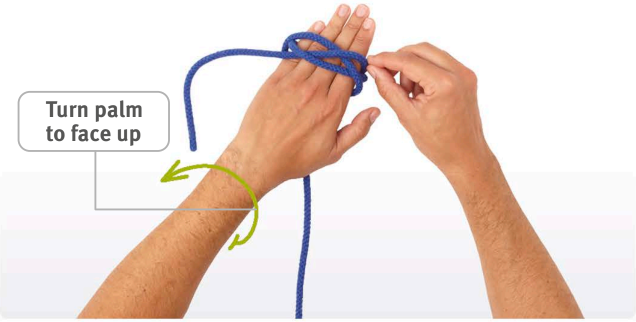
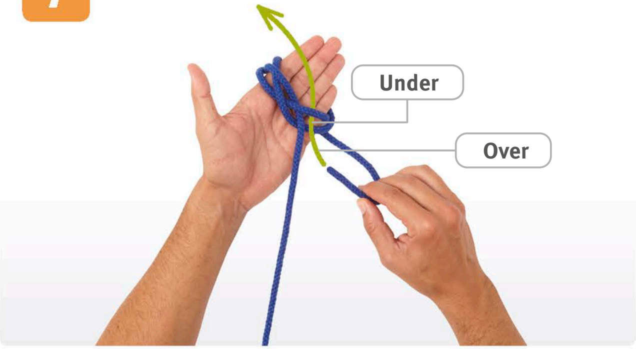


Turn palm to face up

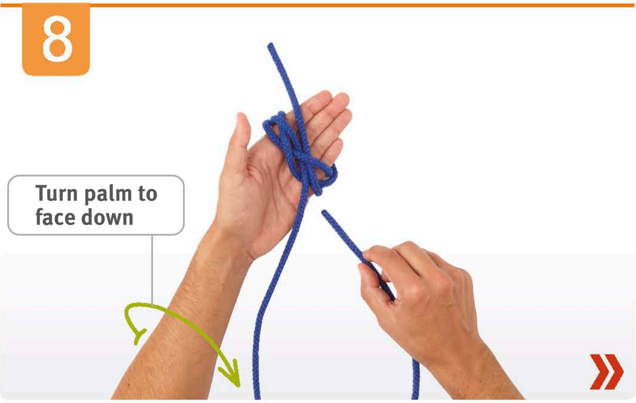
7



Under

Over

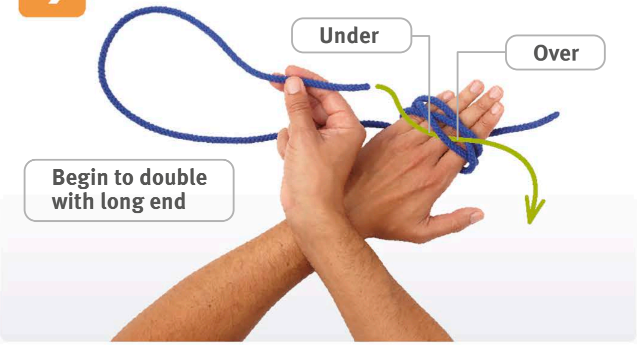
8



Turn palm to face down

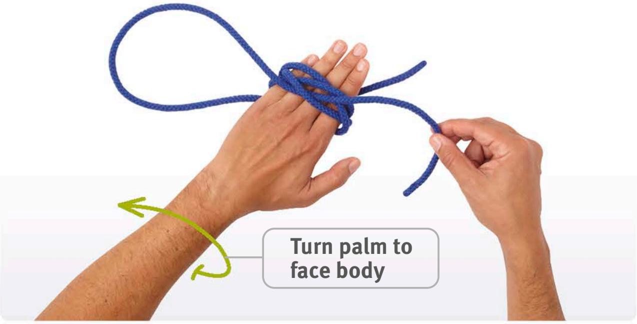
»

9



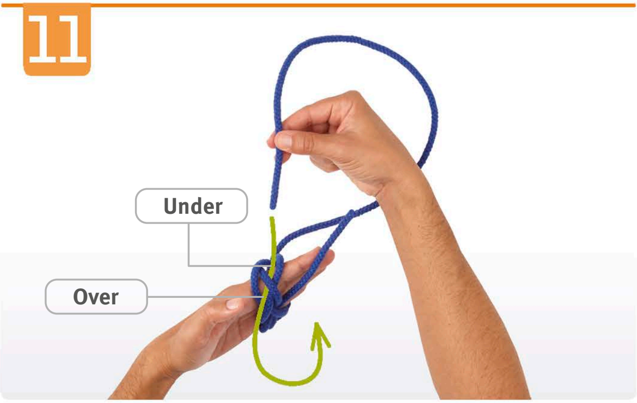
Begin to double with long end

10



Turn palm to face body

11



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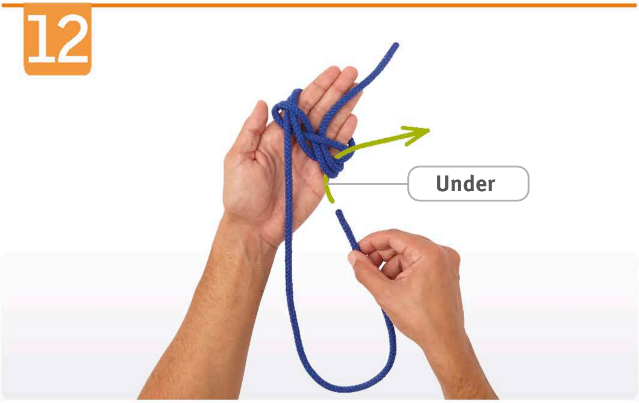

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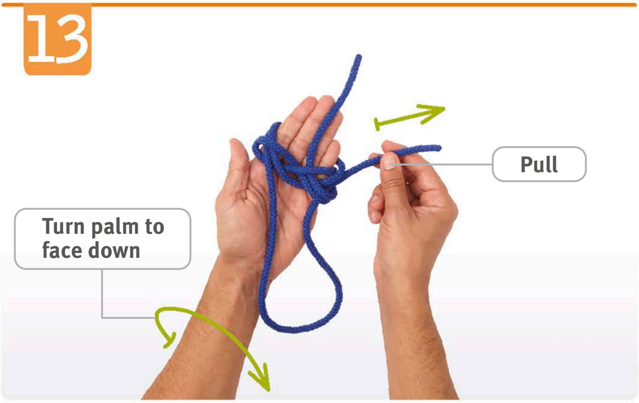
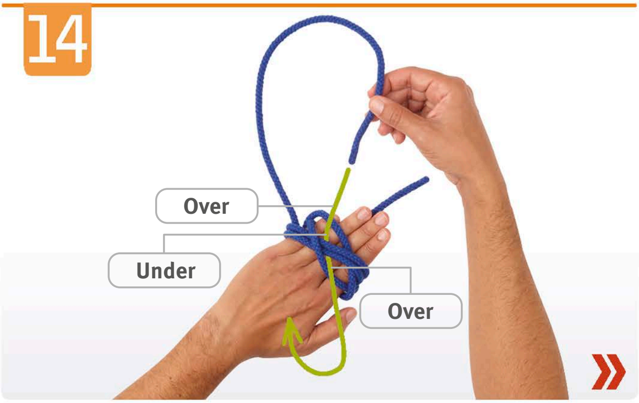
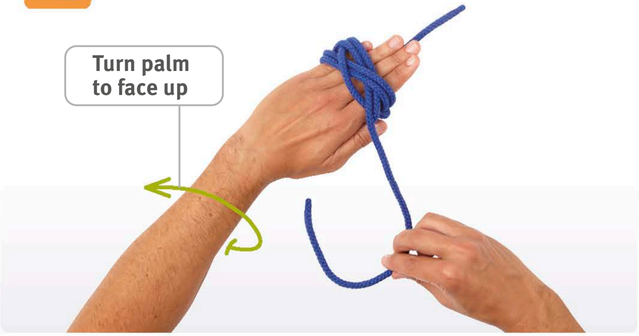

Pull
Turn palm to face down

14


Over
Under
Over

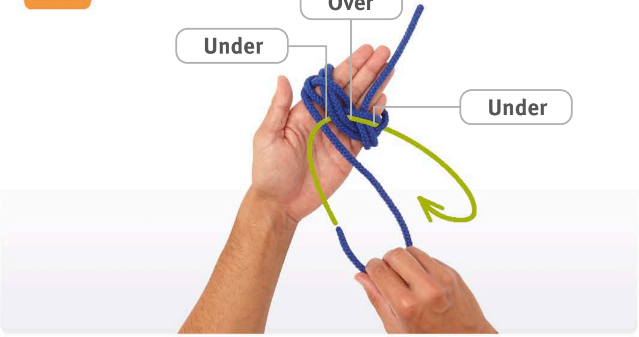
»

15



Turn palm to face up

16

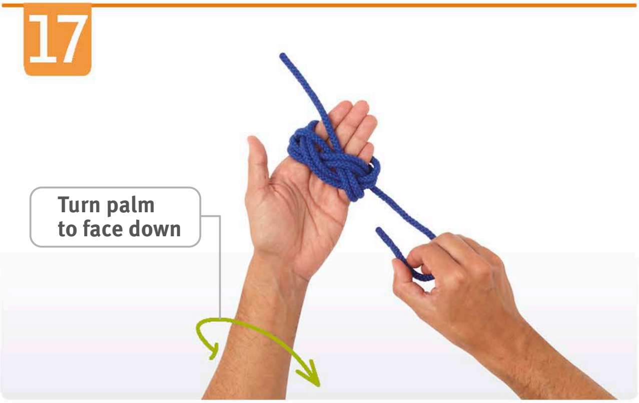


Under

Over

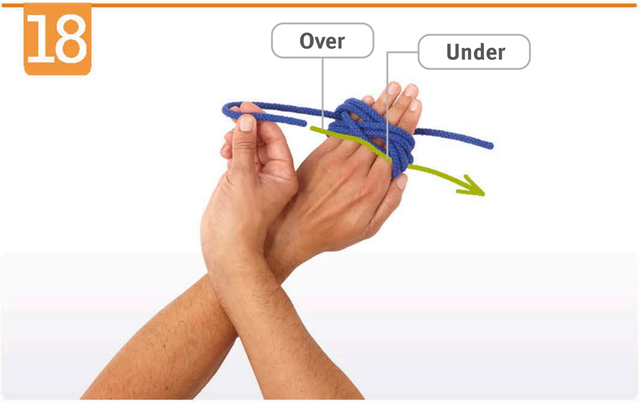
Under

17



Turn palm to face down

18



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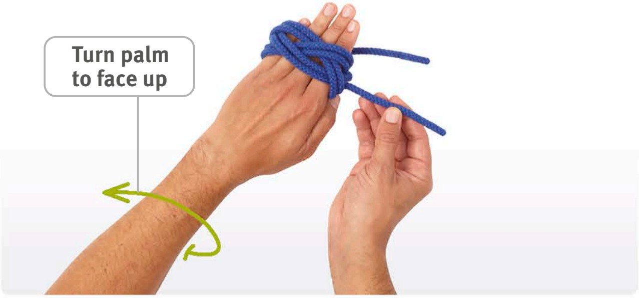
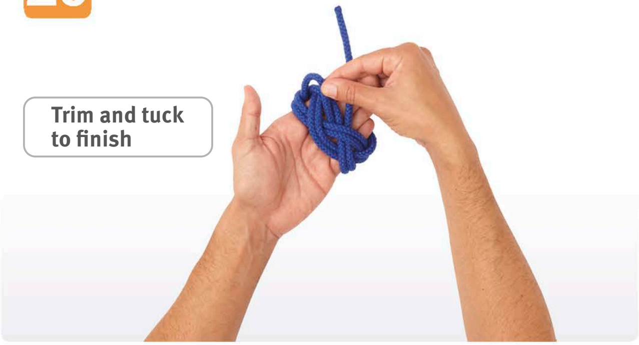

Turn palm to face up

20


Trim and tuck to finish

BEST FOR ...

Household

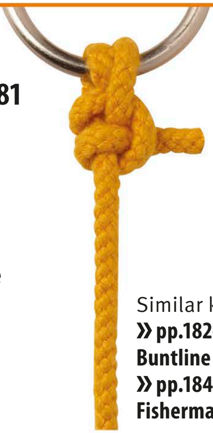
Everyday knots can be used around the home for all kinds of tasks – from hanging pictures and tying back curtains to securing a washing line, making decorative bows, and tying shoelaces.

Round Turn and Two Half Hitches » pp.180–81

✓ Ideal for attaching picture cord to the hanging rings or screw eyes on the back of picture frames.

✓ Also useful for tying a line to a fixed object, such as a washing line to its pole.

✓ Can be untied even when under strain.



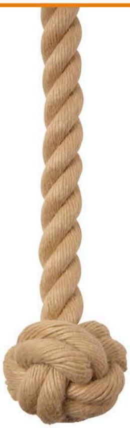
Similar knots:
» pp.182–83
Buntline Hitch
» pp.184–85
Fisherman's Bend

Manrope Knot » pp.61–71

✓ A perfect knot for tying back curtains when threaded through an Eye Splice (*see pp.342–46*).

✓ Can also make an end for a rope handrail.

✓ Can be made bulkier by following the pattern around for a third time.



Similar knots:
» pp.49–53
Monkey's Fist
» pp.72–77
Diamond Knot

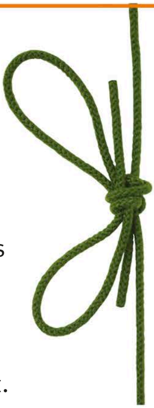
Turquoise Turtle

» pp.99–101

✓ A two-loop knot that is quick to tie.

✓ Perfect for tying up the laces on shoes or boots as it rarely comes undone.

✓ Can be used to make a secure yet decorative bow on a parcel or a present.



Similar knots:
» pp.87–89
Slipped Reef Knot

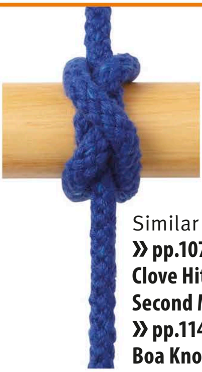
Constrictor Knot

» pp.109–10

✓ A perfect replacement for a hose clip.

✓ Can also be used with stiff cord to tie up the neck of a bin bag or sack.

✓ Binds tightly, making it very hard to untie.



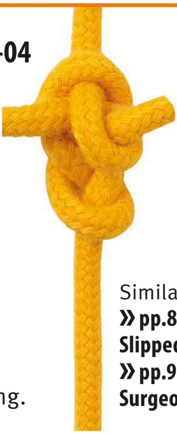
Similar knots:
» pp.107–08
Clove Hitch – Second Method
» pp.114–16
Boa Knot

Packer's Knot **» pp.102–04**

✓ A binding knot that is perfect for tying up a parcel, as it is easy to pull tight and lock into position.

✓ The knot's tightening feature is good for baling up bundles of newspaper.

✓ Also known as a Butcher's Knot, as it can be used to prepare joints of meat for roasting.



Similar knots:
» pp.87–89
Slipped Reef Knot
» pp.96–98
Surgeon's Knot

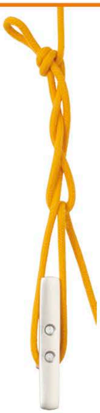
Waggoner's Hitch

» pp.203–04

✓ Pefect for tying down a load such as a pile of logs. It will undo as soon as the strain is released.

✓ Will also secure a roof box to the top of a car.

✗ If repeatedly tied in the same place this knot can cause the rope to chafe severely.

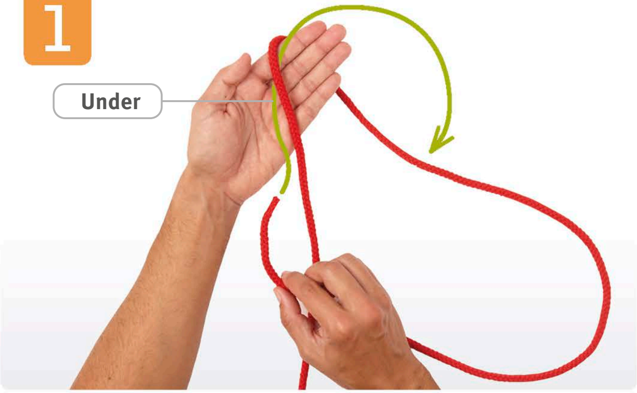


Similar knots:
» pp.111–13
Timber hitch

Turk's Head – Four-Lead Five-Bight

- Used mainly for decorative purposes.
- Essentially a continuous Four-Strand Flat Plait (*see pp.294–95*) – can be followed around two, three, or four times.
- Adjust the spaces between the strands as you tie to ensure that they are even.

1



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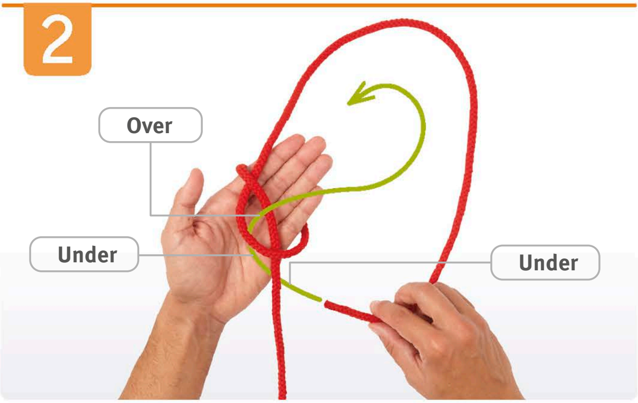

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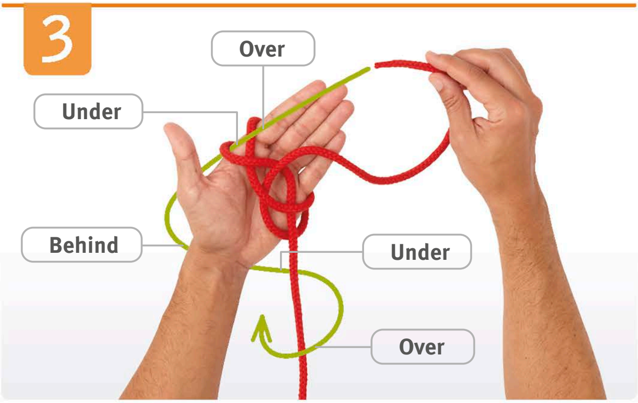
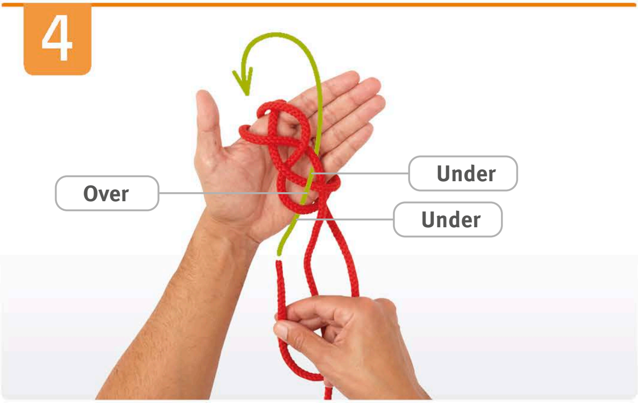
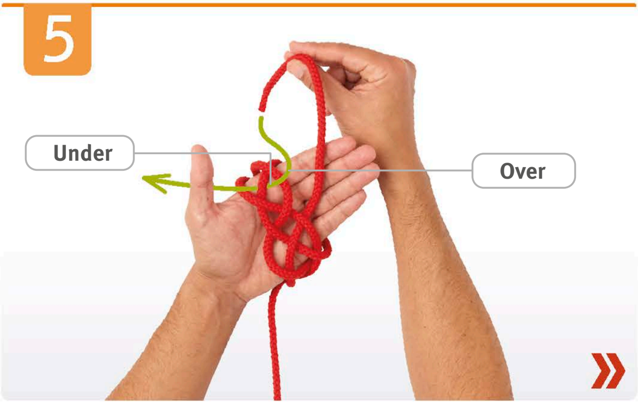

Over
Under
Behind
Under
Over

4

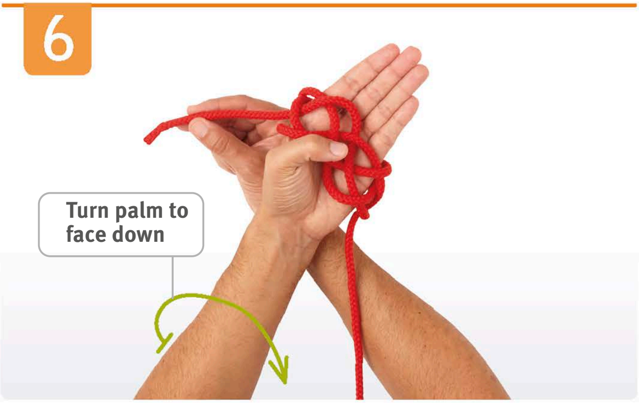

Over
Under
Under

5

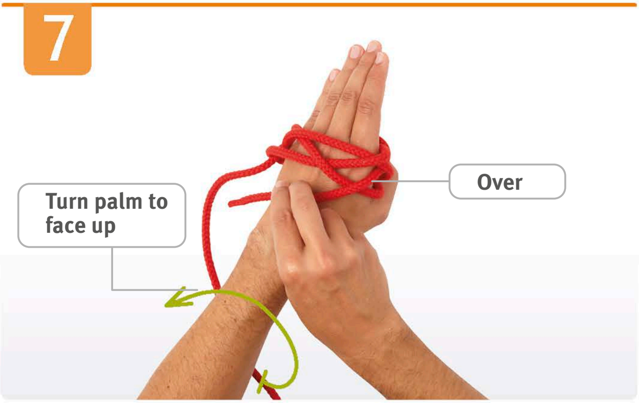


»

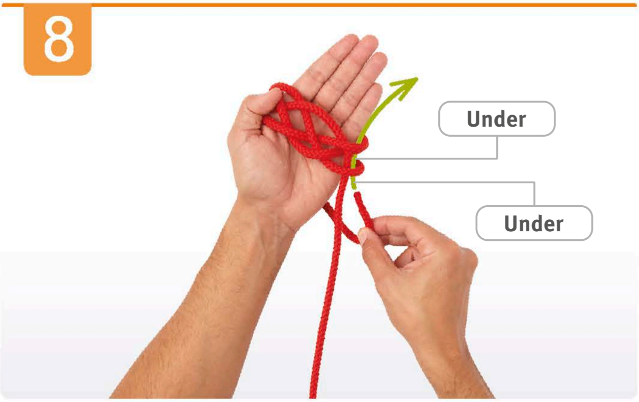
6


Turn palm to face down

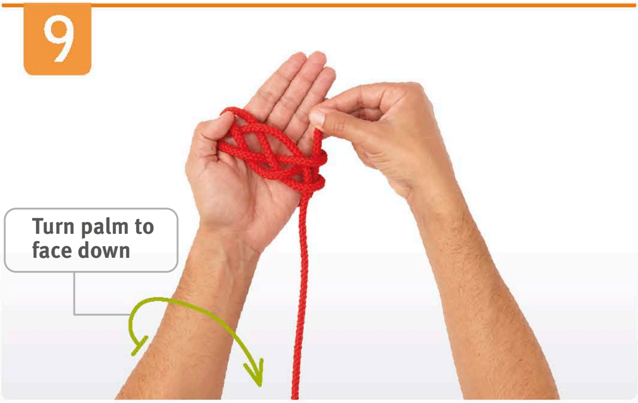
7


Turn palm to face up
Over

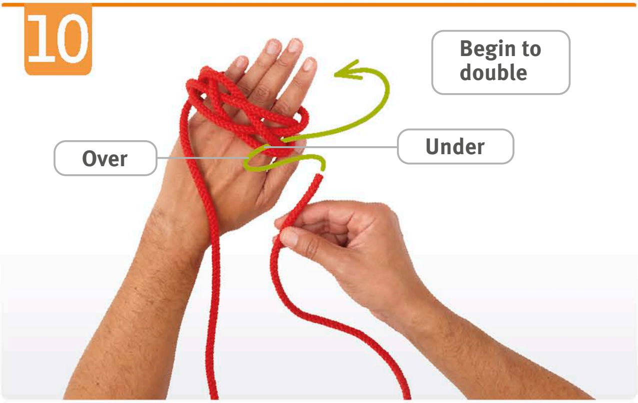
8


Under
Under

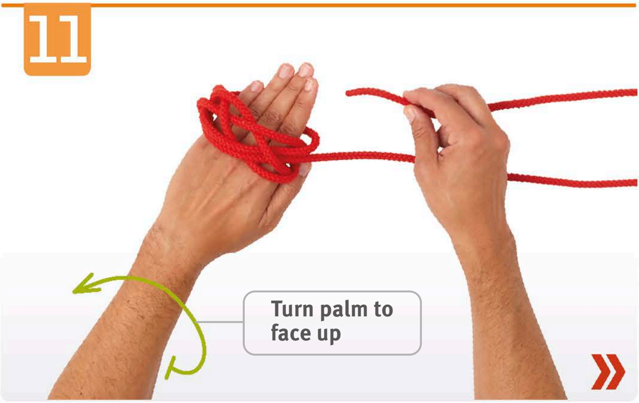
9


Turn palm to face down

10

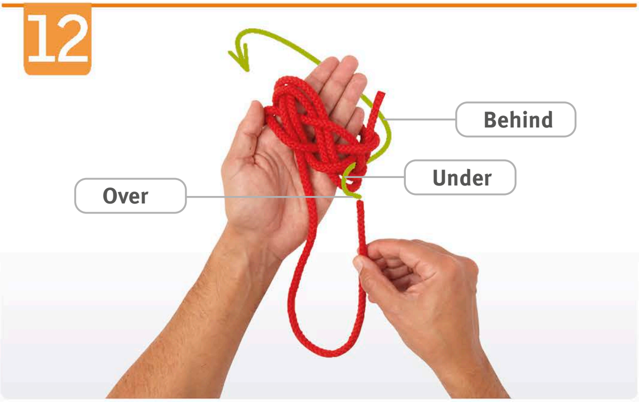

Begin to double
Over
Under

11

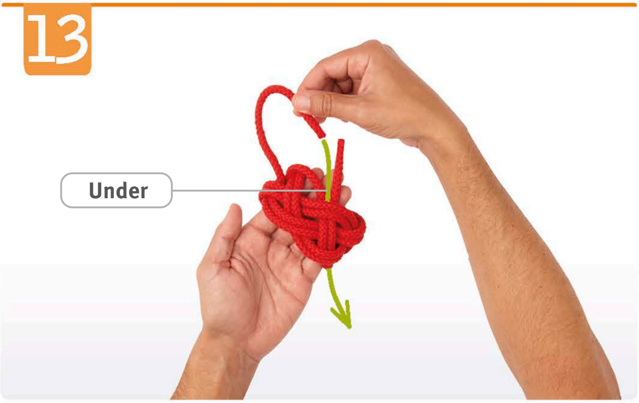

Turn palm to face up

»

12


Behind
Under
Over

13



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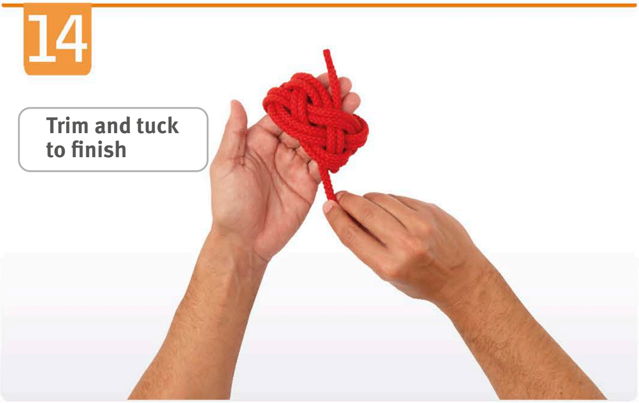
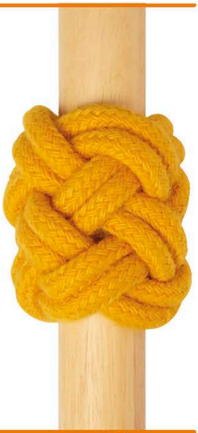
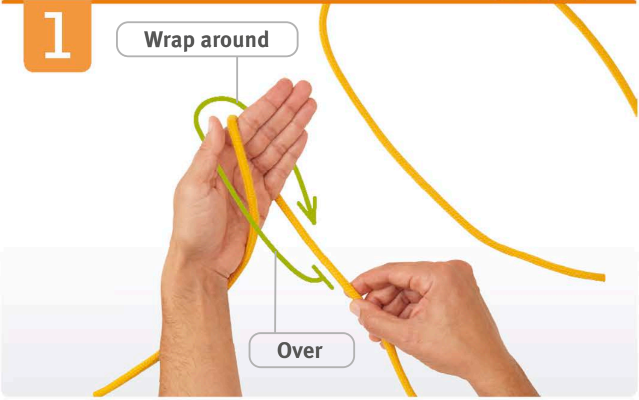

Trim and tuck to finish

Turk’s Head – Five-Lead Four-Bight

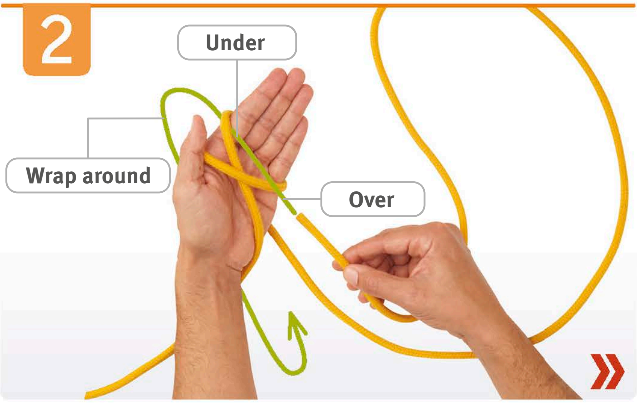


- A highly decorative knot with a large number of interwoven strands.
- Can be doubled or tripled (*see p.24*).
- Finish by tightening carefully then trimming and tucking the ends inside the knot.

1

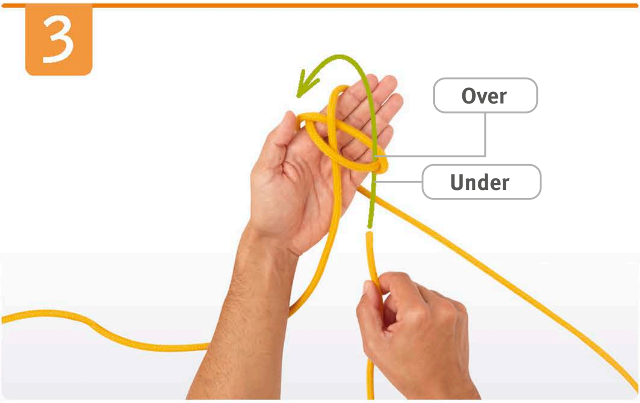

Wrap around
Over

2


Under
Wrap around
Over

»

3



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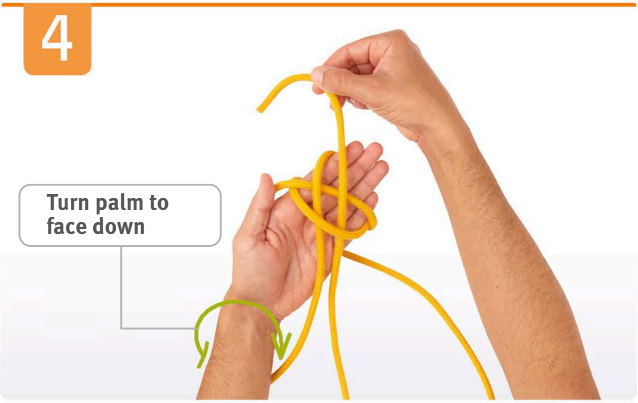
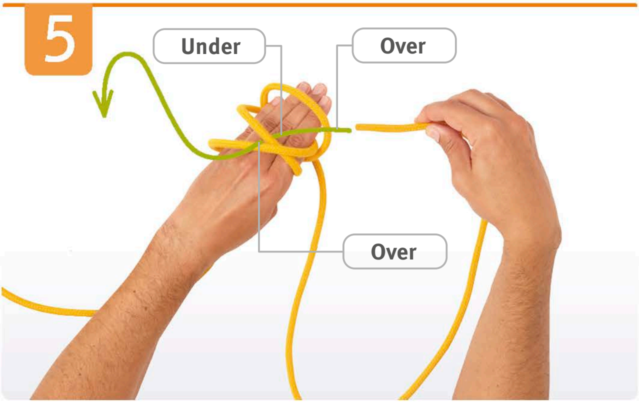
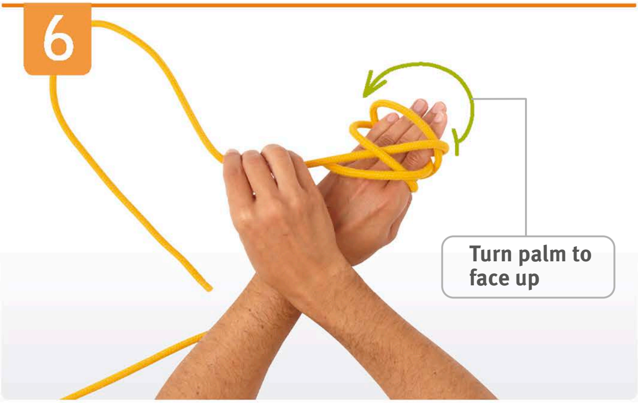

Turn palm to face down

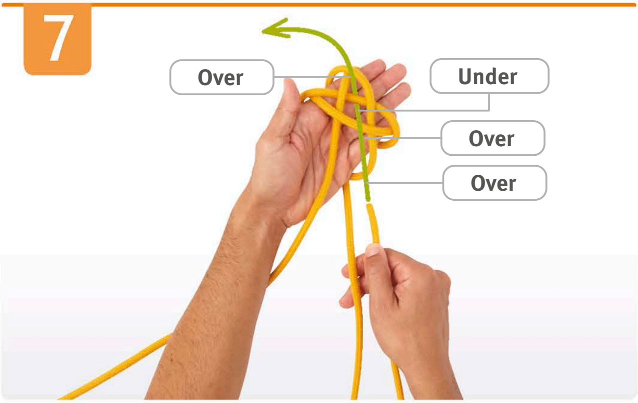
5


Under
Over
Over

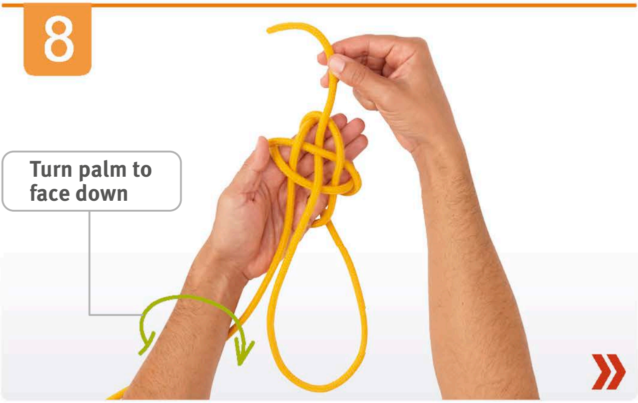
6


Turn palm to face up

7

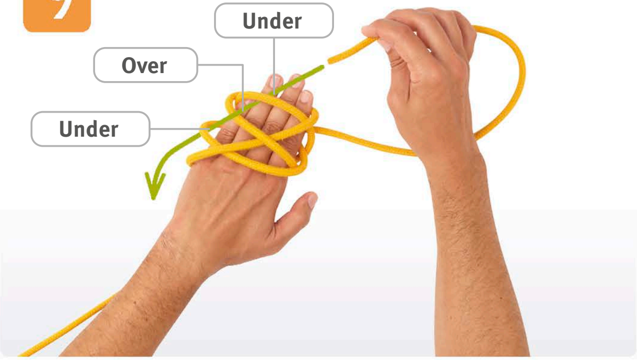

Over
Under
Over
Over

8

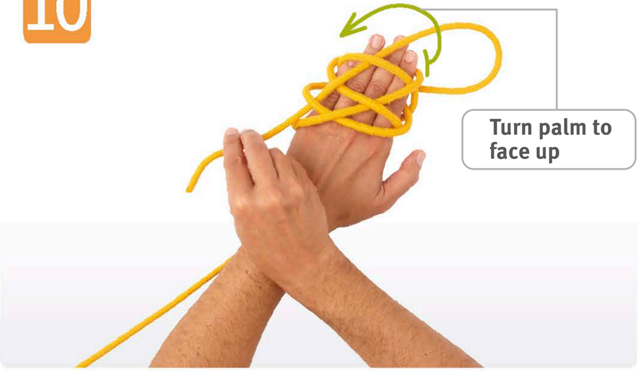

Turn palm to face down

»

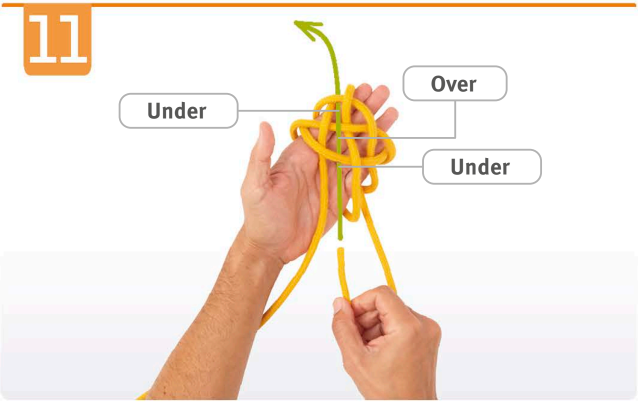
9


Under
Over
Under

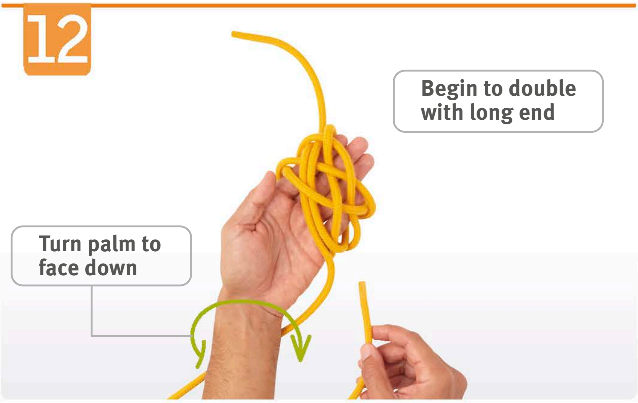
10


Turn palm to face up

11


Under
Over
Under

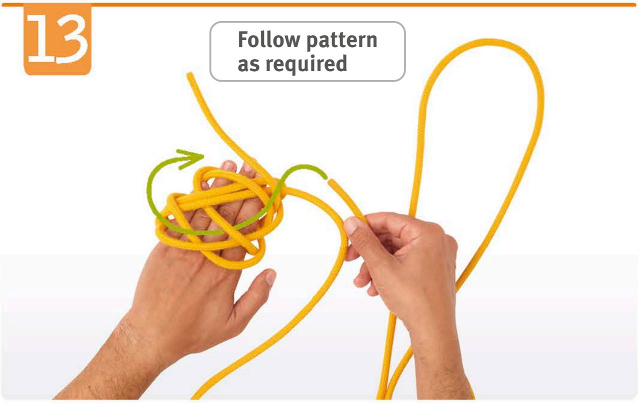
12



Begin to double with long end

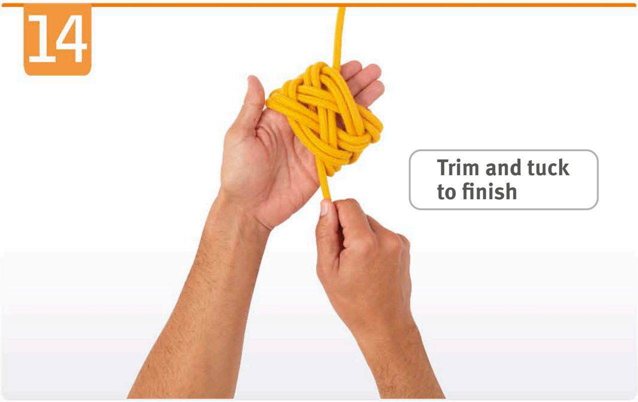
Turn palm to face down

13



Follow pattern as required

14

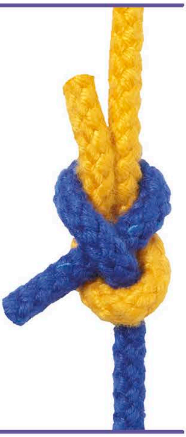


Trim and tuck to finish

Bends

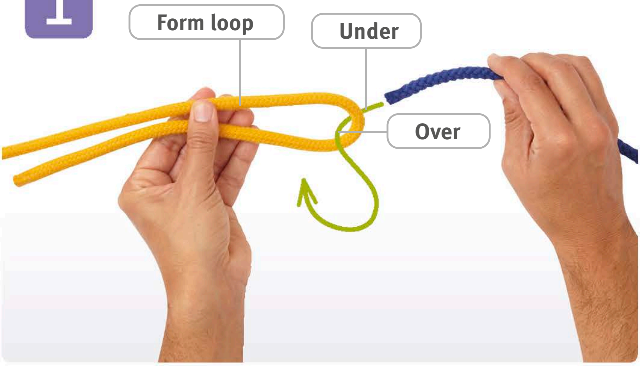
A bend is used to connect two pieces of rope or line together. Most bends are designed to tie together two ropes of equal diameter, but there are also bends that have been developed for ropes of different thicknesses.

Sheet Bend

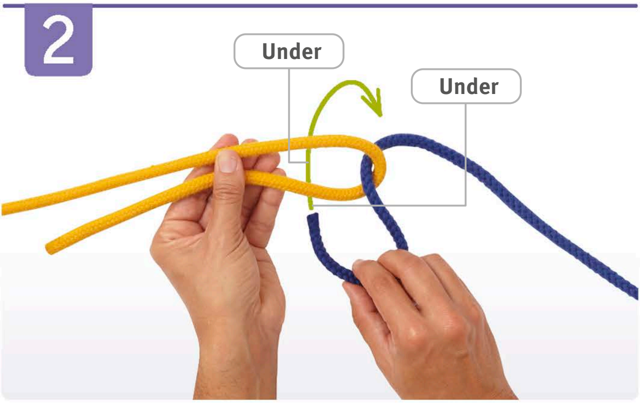


- A common knot for joining two ropes of equal thickness.
- Quick and easy to tie.
- May work loose when not under strain.
- If joining ropes of unequal size, use the Double Sheet Bend (*see pp.144–45*).

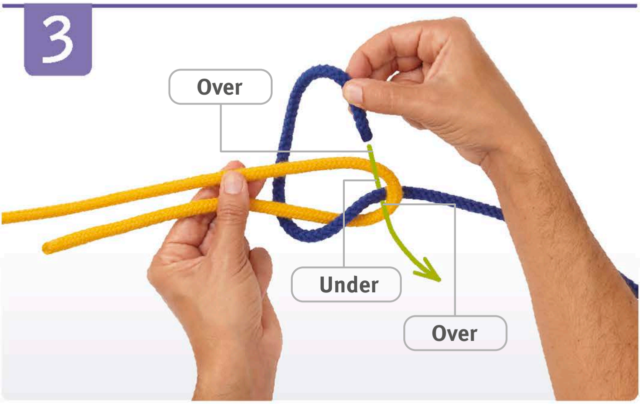
1


Form loop
Under
Over

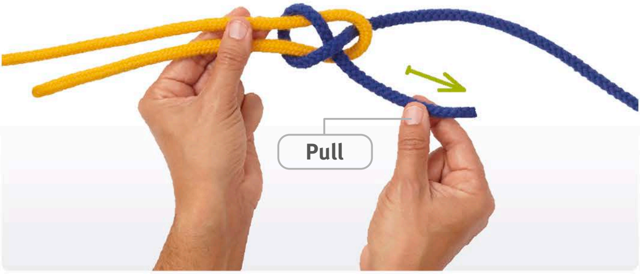
2


Under
Under

3

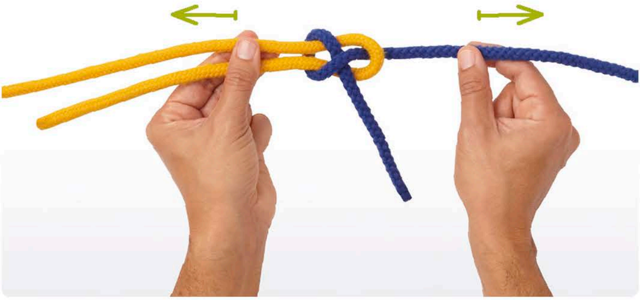

Over
Under
Over

4

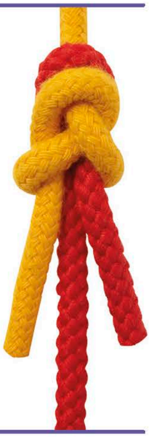


5

Tighten to finish

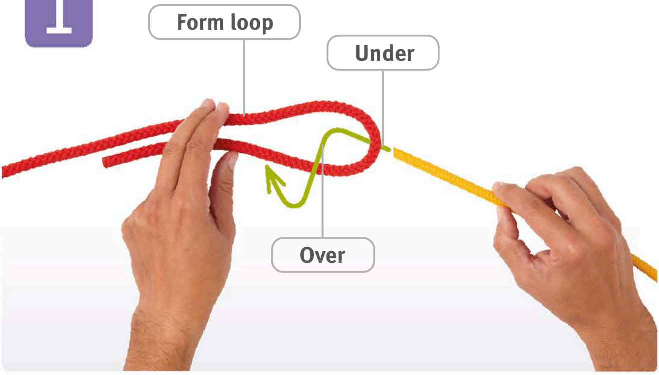


Tucked Sheet Bend

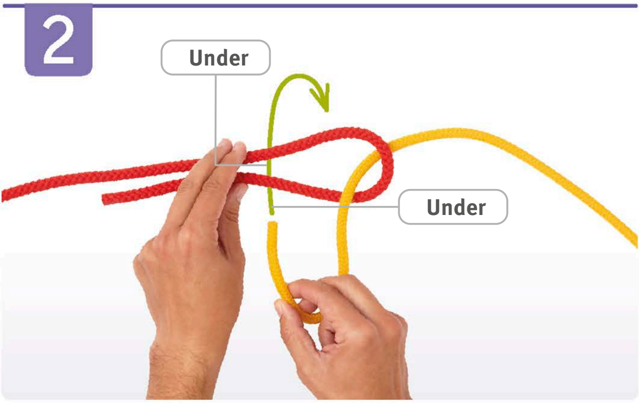


- Used for joining two pieces of thin line.
- A variation of the Sheet Bend (*see pp.140–41*) that incorporates a Figure of Eight (*see pp.38–39*) structure.
- Tuck ends against rope to prevent snagging when pulled along.
- Will snag if pulled in the wrong direction.

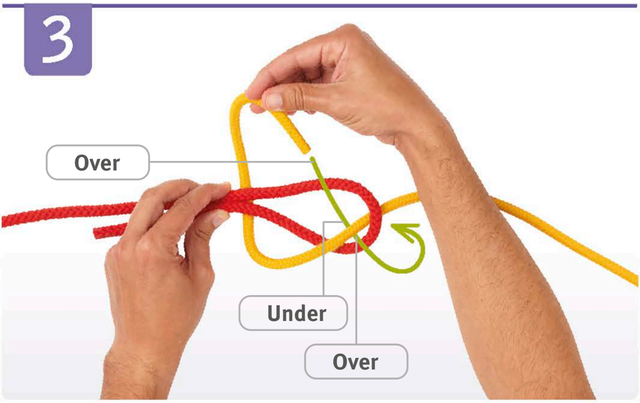
1


Form loop
Under
Over

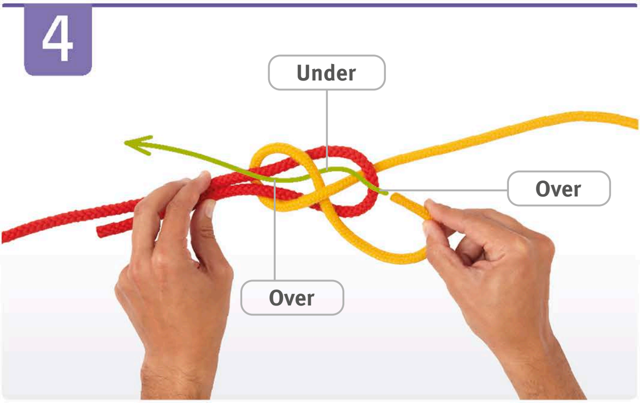
2


Under
Under

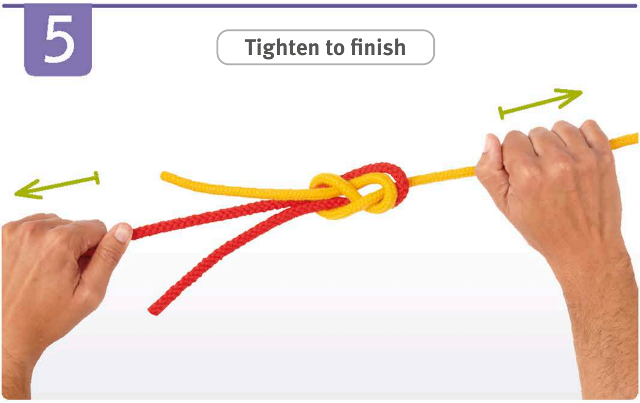
3


Over
Under
Over

4

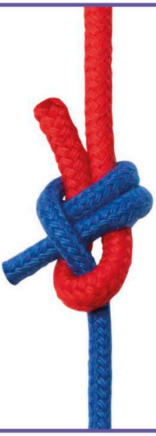

Under
Over
Over

5


Tighten to finish

Double Sheet Bend

- Used to join two ropes of unequal thickness.
- Use the thicker rope to form the loop.



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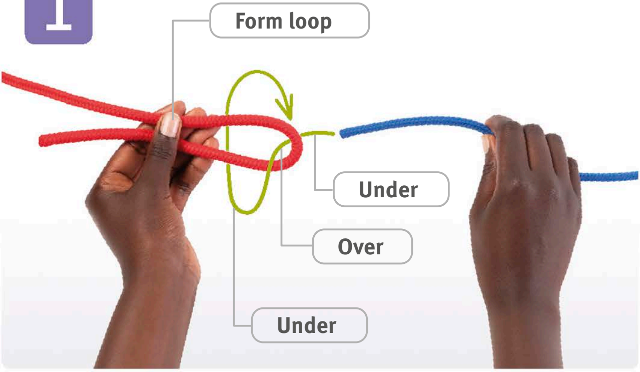
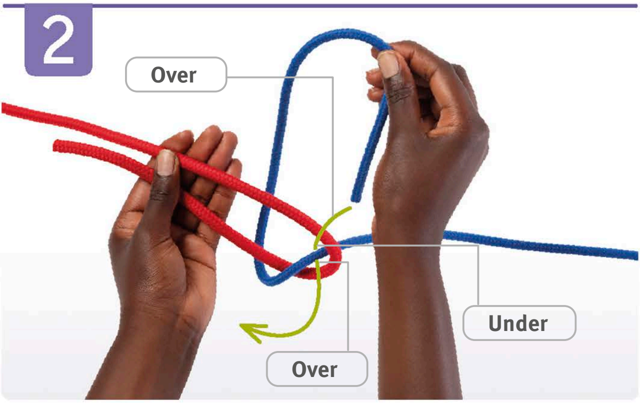

Form loop
Under
Over
Under

2


Over
Under
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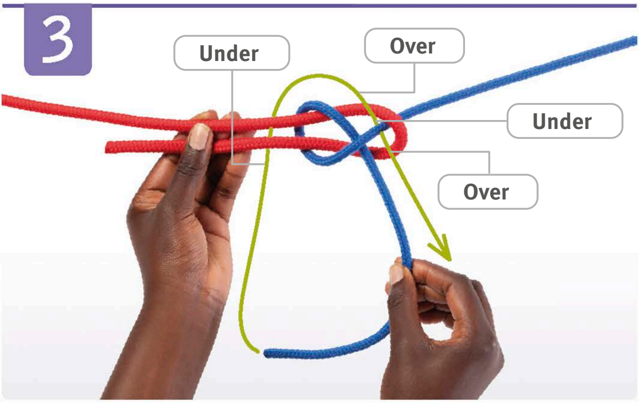
3


Under
Over
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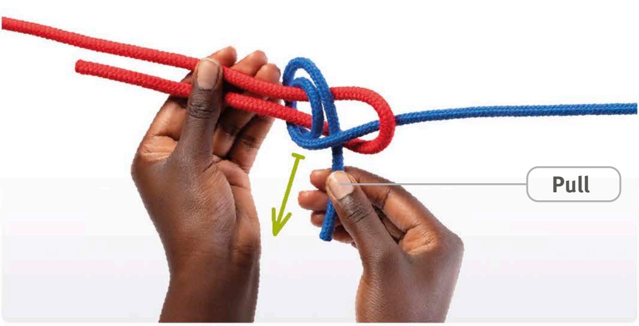
4



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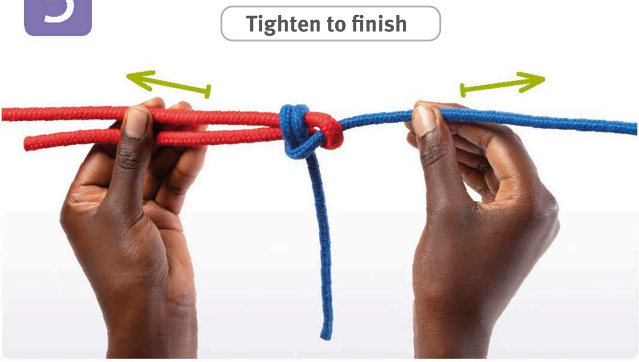
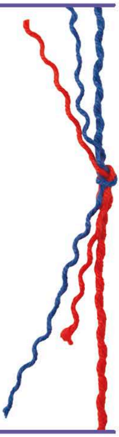

Tighten to finish

Rope Yarn Knot

- Used for tying together rope yarns to make a new piece of rope.
- Can also be used to join textile materials together.
- Similar in structure to the Reef Knot (*see pp.85–86*) but less bulky.



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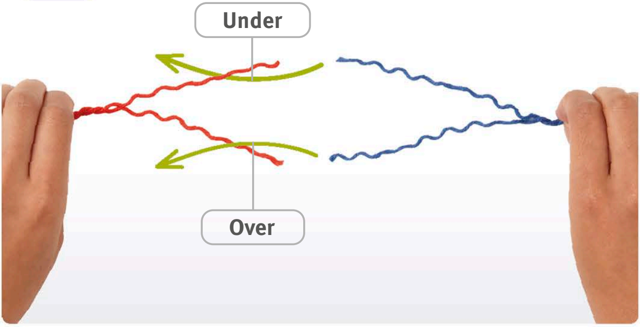

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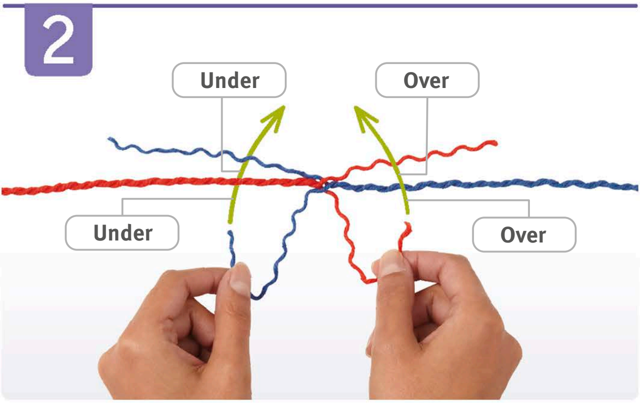
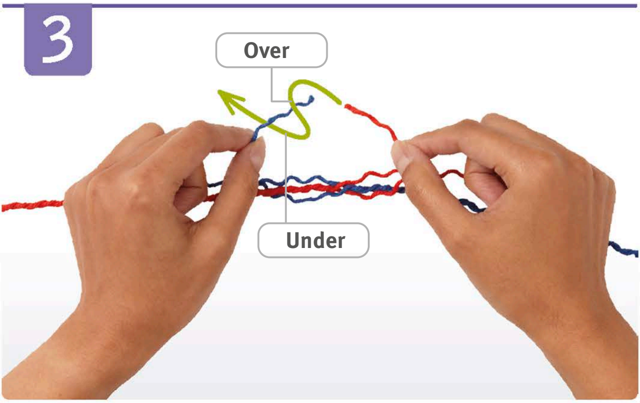

Under
Over
Under
Over

3



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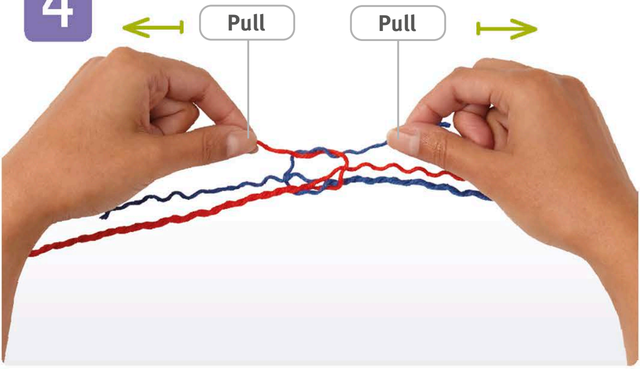

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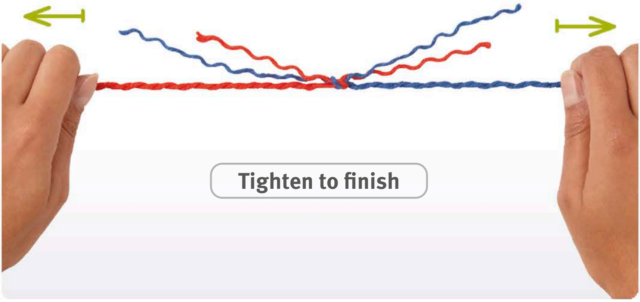
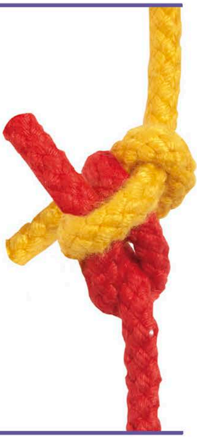

Tighten to finish

Carrick Bend

- Good for joining two thick ropes or cables.
- Can be seized (*see p.25*) as a flat knot, or tightened to collapse on itself.
- Easy to untie.



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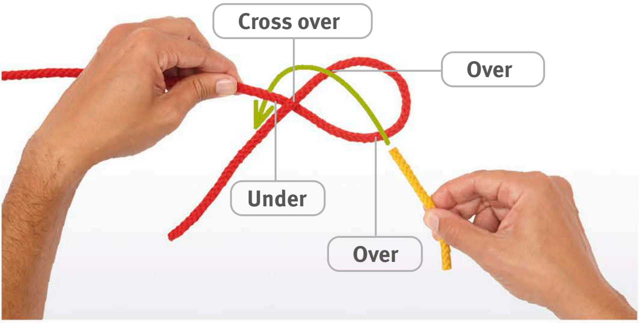
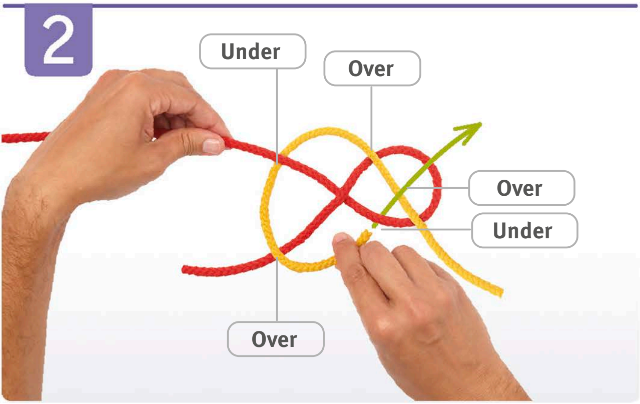
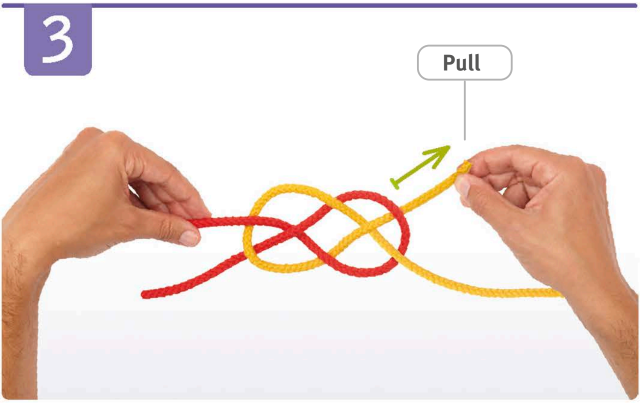

Cross over
Over
Under
Over

2

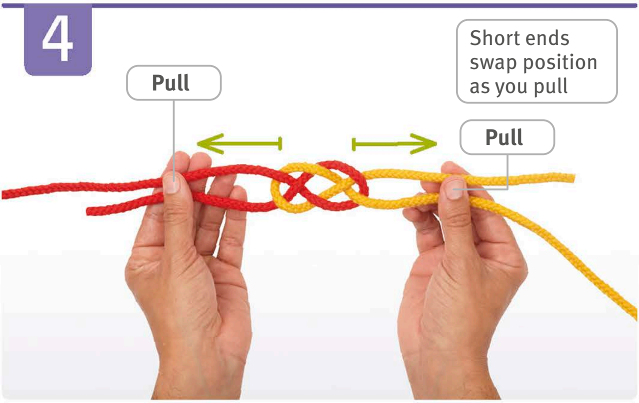

Under
Over
Over
Under
Over

3



Pull

4

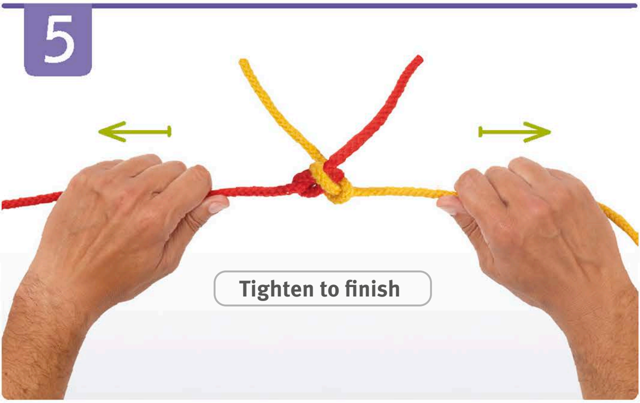


Pull

Short ends swap position as you pull

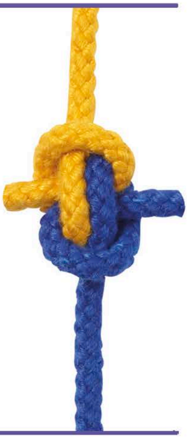
Pull

5



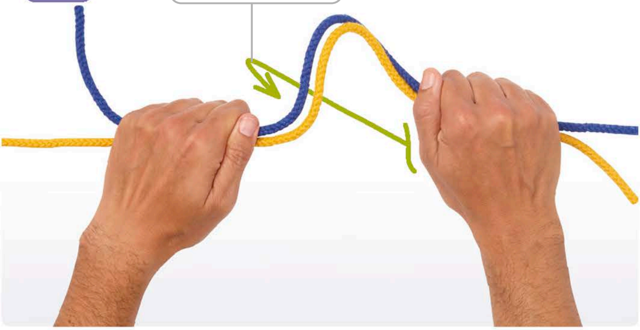
Tighten to finish

Hunter’s Bend

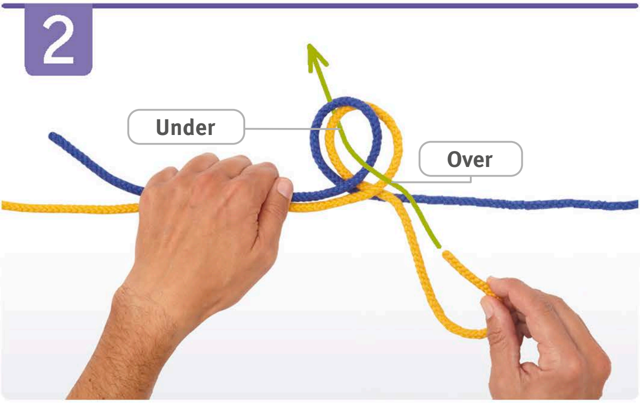


- Good for joining two lengths of synthetic rope (*see also pp.140–41*).
- Needs to be carefully adjusted to shape.
- Also known as the Rigger’s Bend.
- Named after Dr Edward Hunter.

1


Cross under

2



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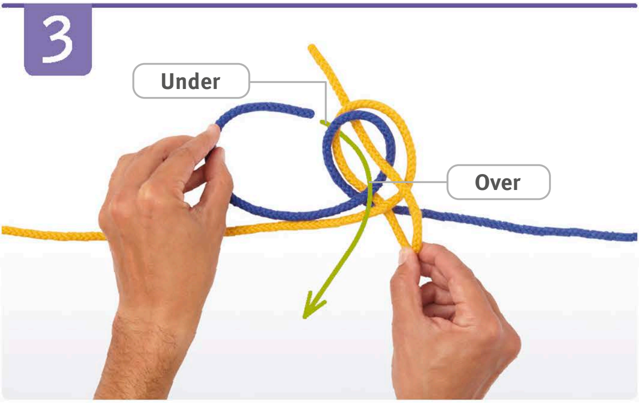
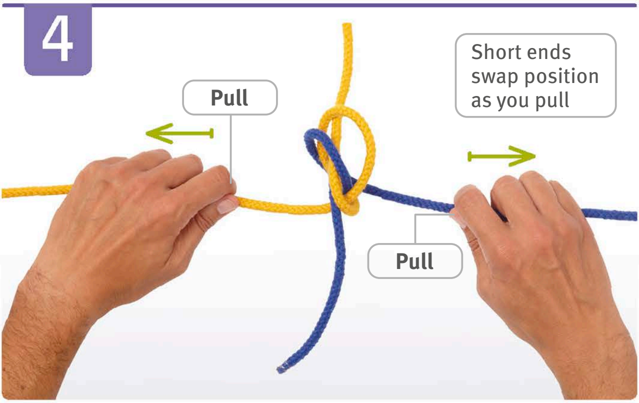


Under

Over

4

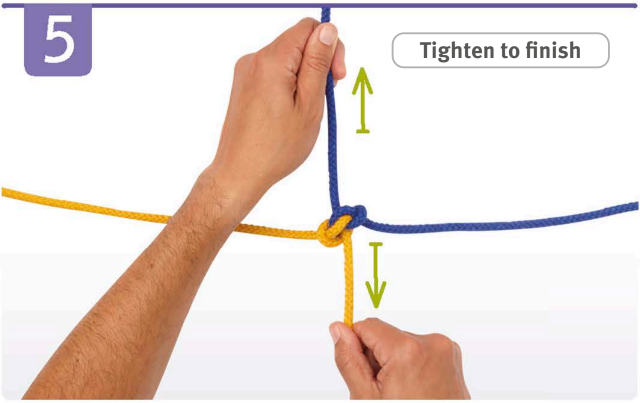


Pull

Short ends swap position as you pull

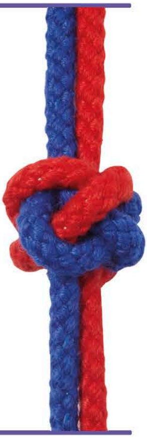
Pull

5



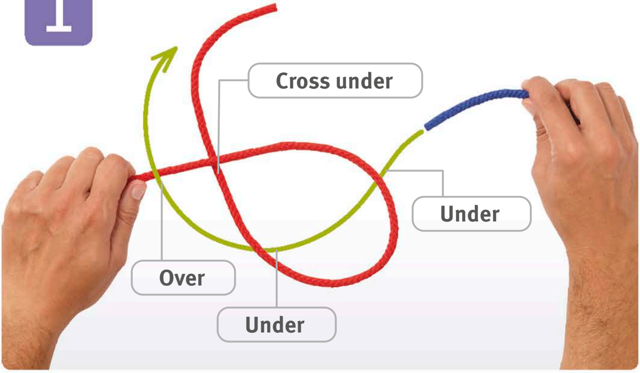
Tighten to finish

Lanyard Knot

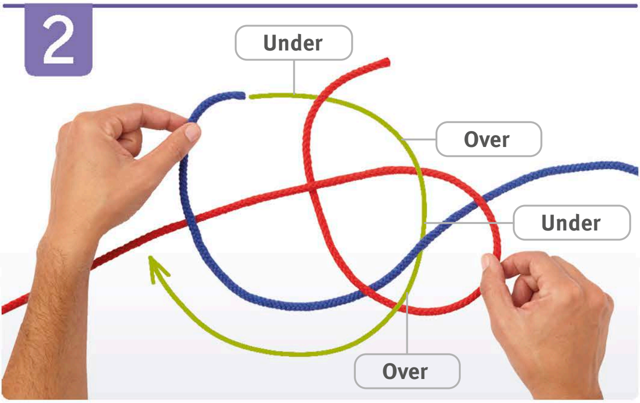


- A decorative method for joining two ropes.
- Based on the same structure as the Carrick Bend (*see pp.148–49*).
- Also known as the Friendship Knot.

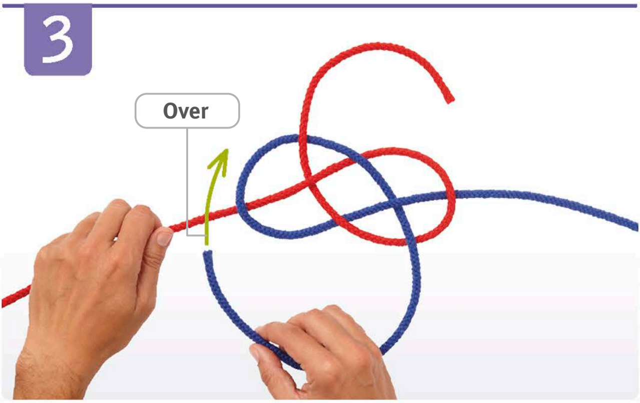
1


Cross under
Under
Over
Under

2


Under
Over
Under
Over

3



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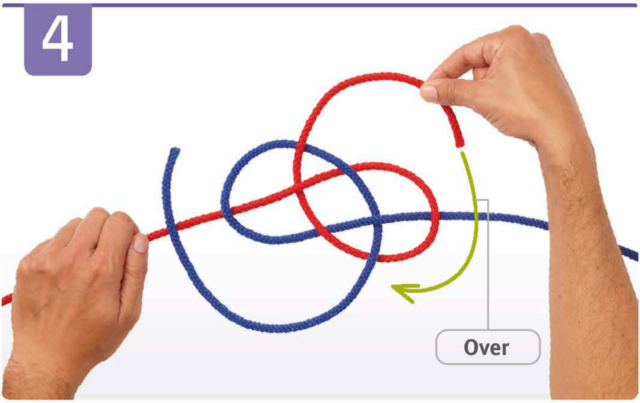

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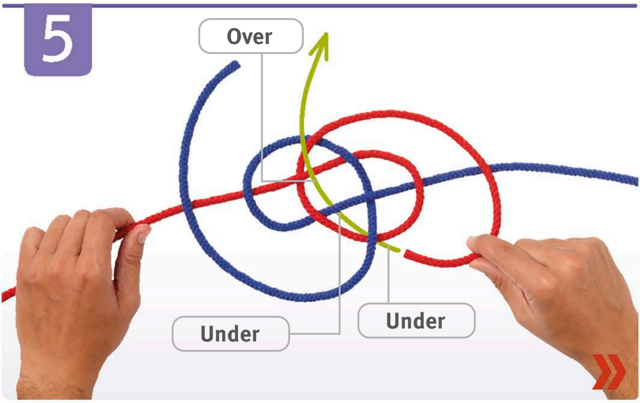
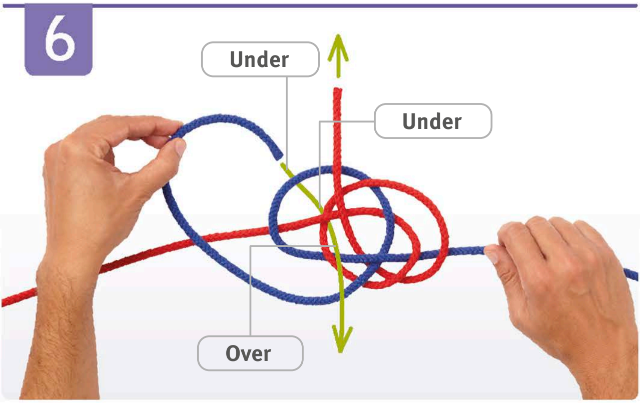
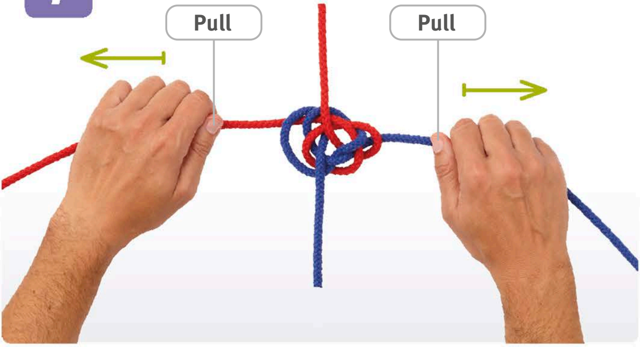

Over
Under
Under

»

6

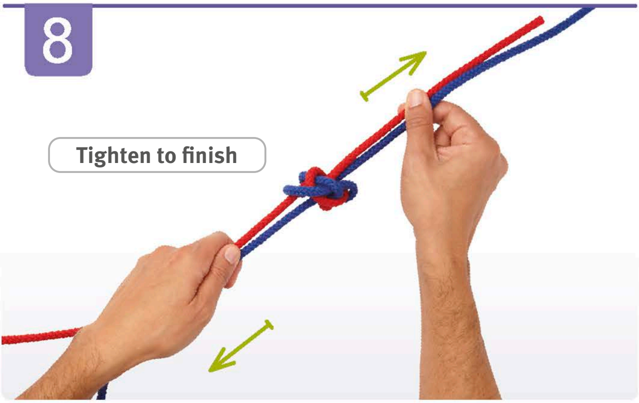

Under
Under
Over

7



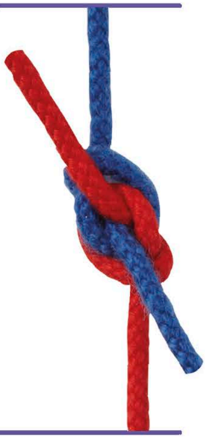
8

Tighten to finish



Ashley’s Bend

- Used to join two pieces of thin line together.
- Easy to tie and untie.
- Secure even when subjected to strenuous movement.
- Ensure that both crossing turns are the same.
- Named after Clifford W. Ashley, an American knot expert.



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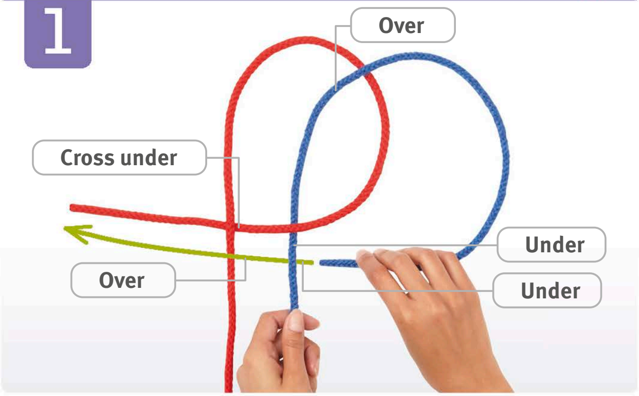
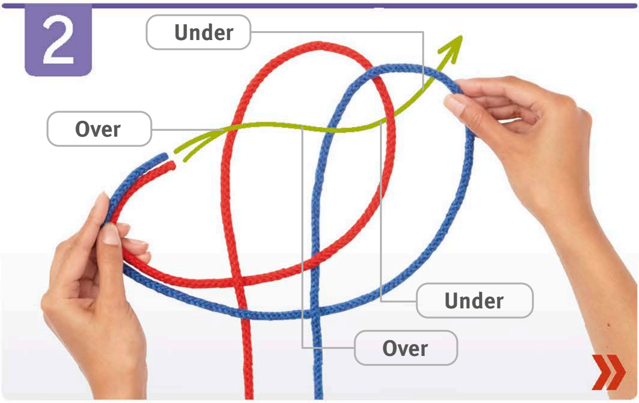

Over
Cross under
Under
Over
Under

2


Under
Over
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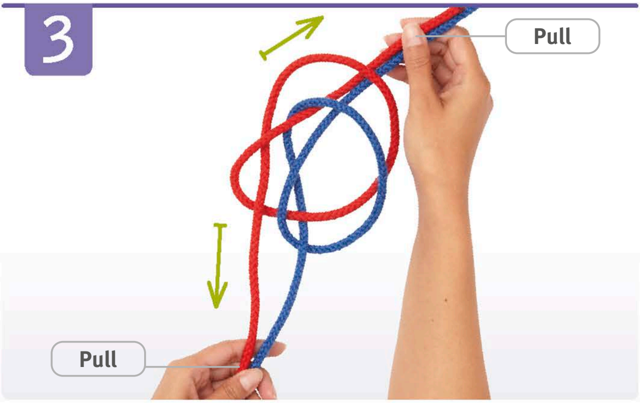
3



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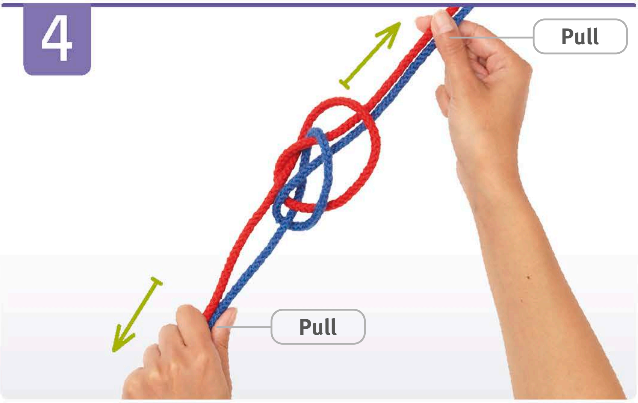

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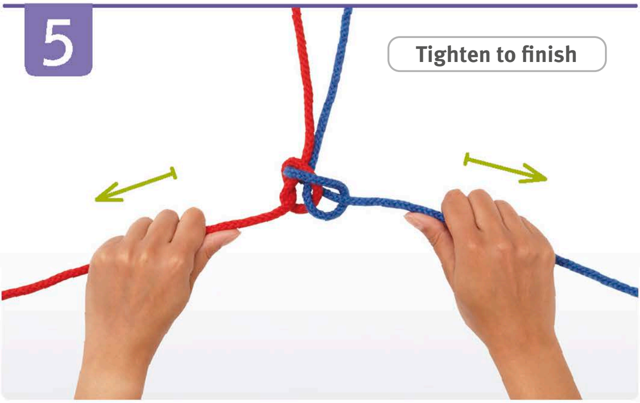
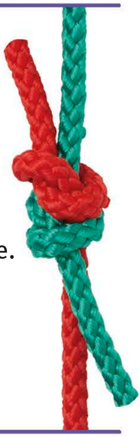

Tighten to finish

Fisherman’s Knot

- Good for joining relatively thin ropes and lines.
- Used by fishermen and climbers.
- Ensure that the lengths of the short ends are at least five times the diameter of the rope.
- Consists of two sliding Overhand Knots (*see pp.28–29*).



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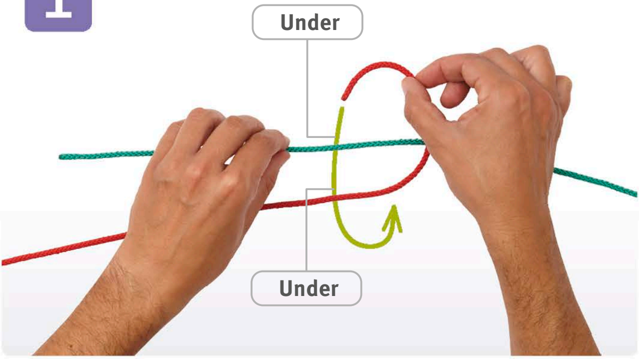

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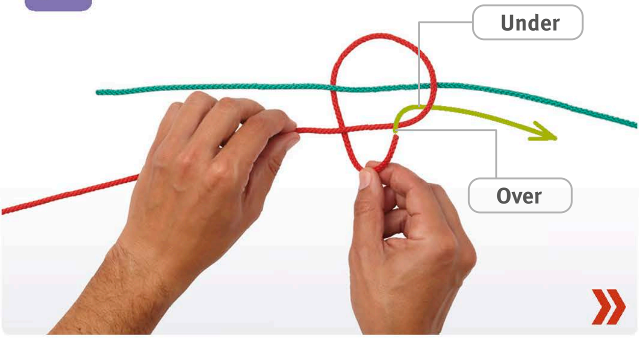

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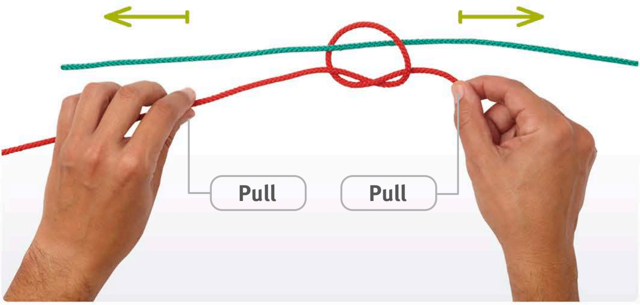

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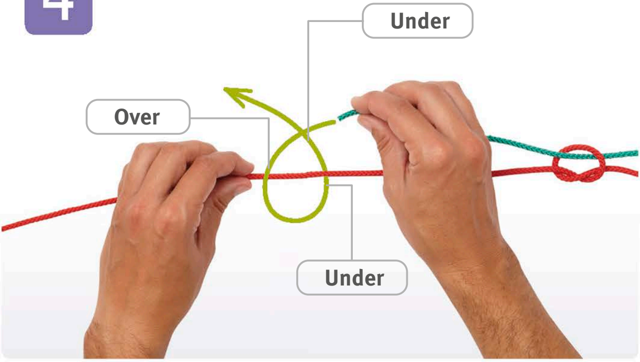
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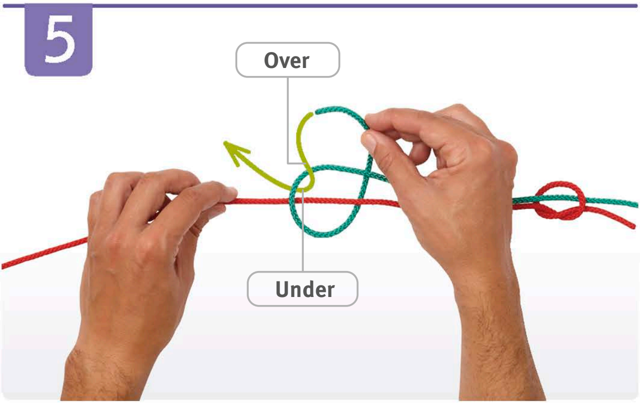

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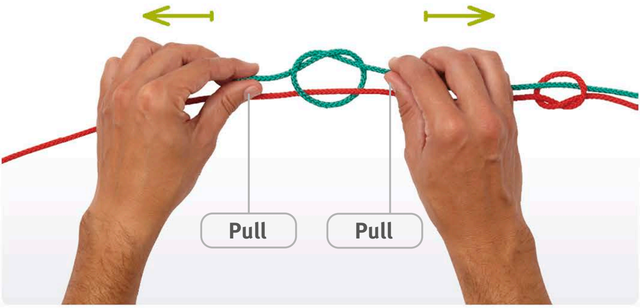
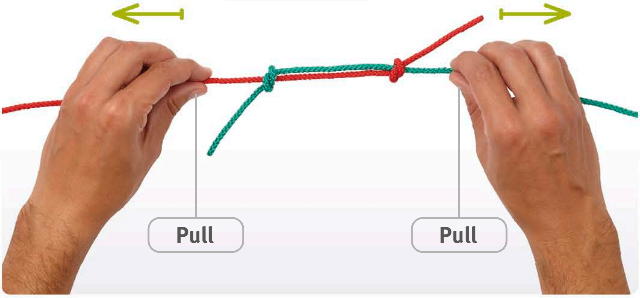


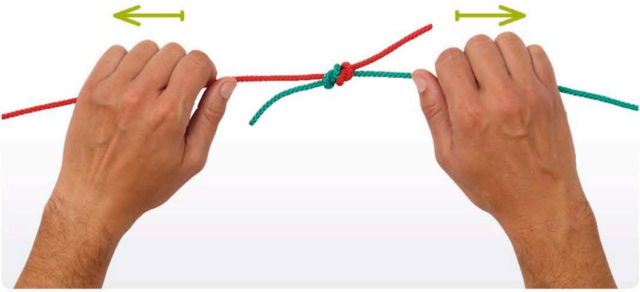
7

Bring knots together

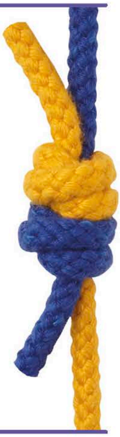


8

Tighten to finish

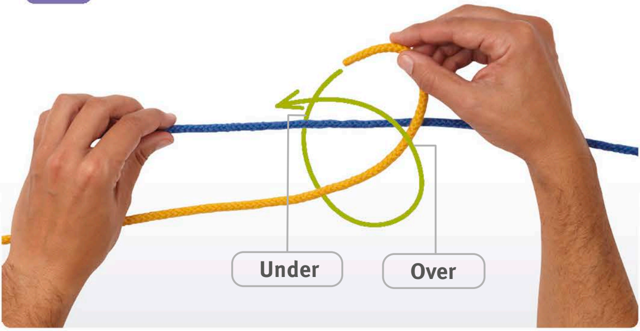


Double Fisherman's Knot



- Used when a rope or line is particularly slippery.
- The extra turns prevent the knot from coming undone when put under strain.
- The ends may be taped down for greater security.

1



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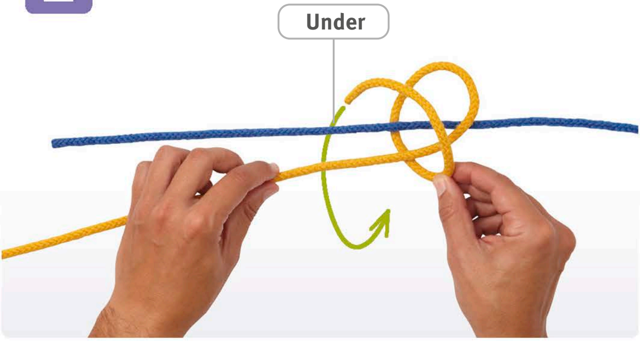

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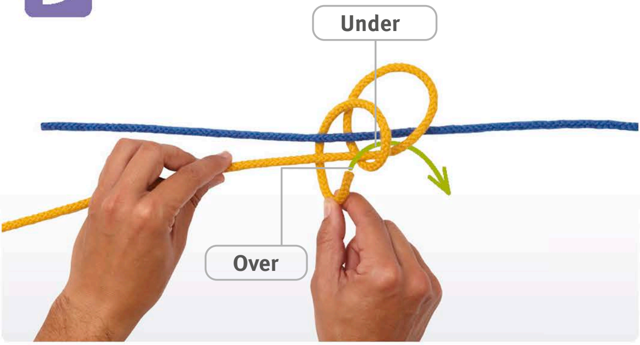

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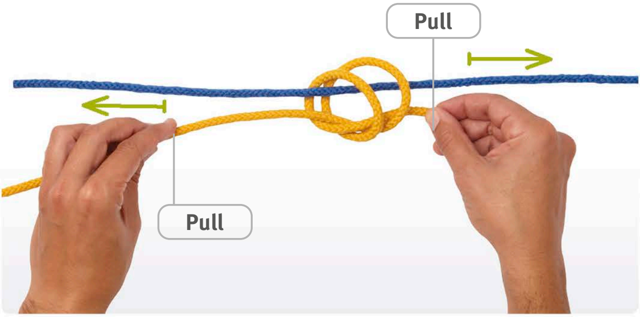

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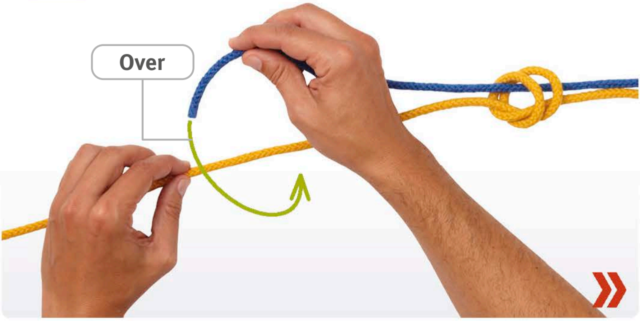

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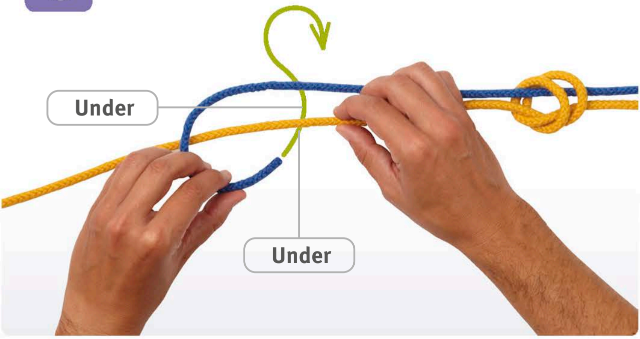
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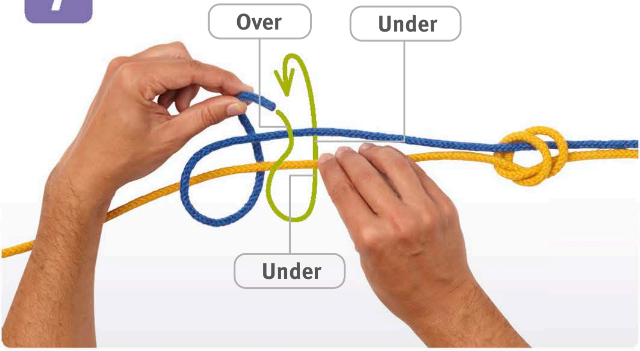
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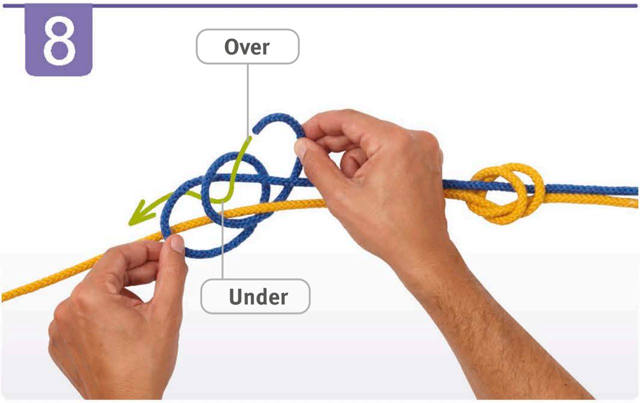

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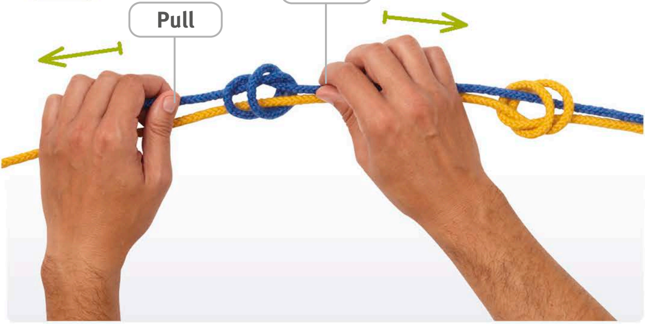
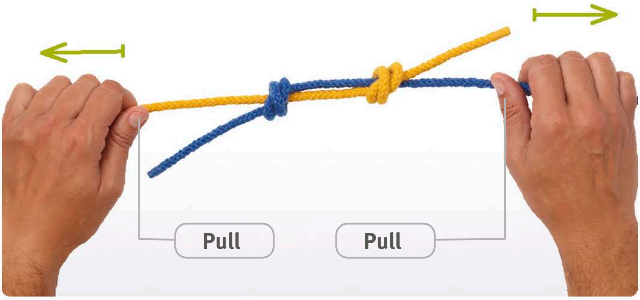


Pull

Pull

10

Bring knots together

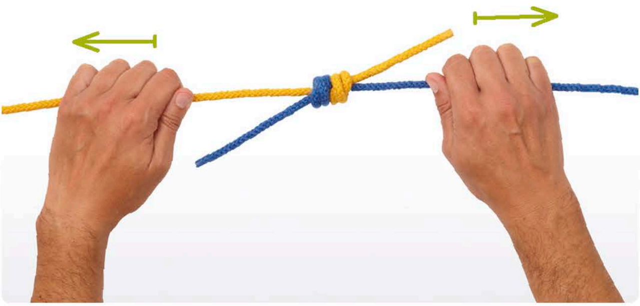


Pull

Pull

11

Tighten to finish

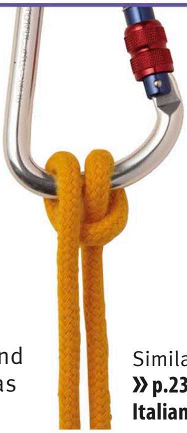


BEST FOR ...
Climbing

A knowledge of knots is essential for climbers, as their safety may depend on it. It is important to take care when finishing these common climbing knots – check the shape is correct and make sure there are no twists in the rope.

Italian Hitch

» pp.234–35



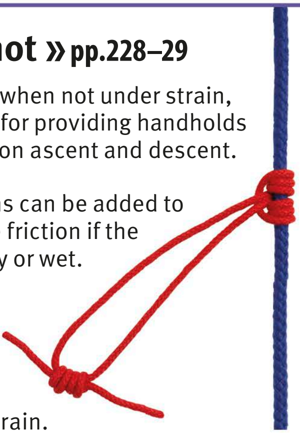
✓ Used on a safety line by climbers as it can control the speed of a fall and the distance fallen.

✓ A knot that can also be used for abseiling.

✗ Creates twists in the rope and causes wear, so best used as a backup or in an emergency.

Similar knots:
» p.235 Reversed Italian Hitch

Prusik Knot » pp.228–29



✓ Will slide when not under strain, so useful for providing handholds and footholds on ascent and descent.

✓ Extra turns can be added to give more friction if the rope is slippery or wet.

✗ Always check that the knot is secure and holds under strain.

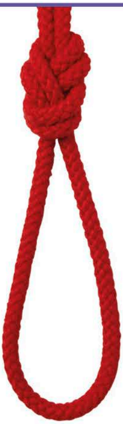
Similar knots:
» pp.232–33 Klemheist Knot

Figure-of-Eight Loop

» pp.249–50

☑ Popular among climbers as its distinctive shape makes it easy to check that it has been tied properly.

☑ Still possesses some residual strength as an overhand loop, even if it is not tied properly.



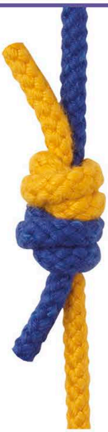
Similar knots:
» pp.240–41
Bowline
» pp.253–54
Overhand Loop

Double Fisherman's Knot **» pp.160–63**

☑ Excellent for making continuous loops for Prusik slings (*see pp.228–29*).

☑ Also good for joining two lengths of rope, even if they are of different diameters.

☑ The chance of snagging can be reduced by taping the ends.

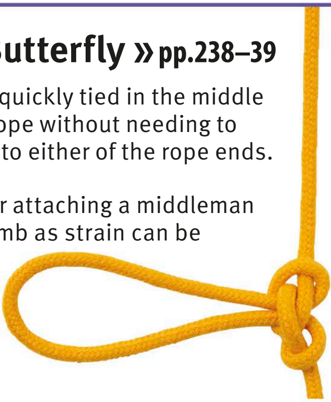


Similar knots:
» pp.157–59
Fisherman's Knot
» pp.172–73
Water Knot

Alpine Butterfly » pp.238–39

✓ Can be quickly tied in the middle of the rope without needing to have access to either of the rope ends.

✓ Ideal for attaching a middleman on a climb as strain can be applied to either side of the knot.



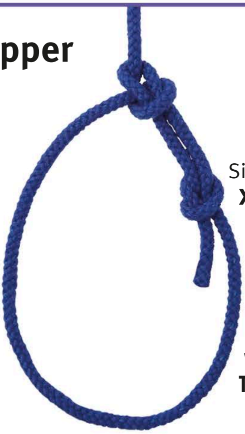
Similar knots:
» pp.249–50 Figure-of-Eight Loop
» pp.259–61 Bowline on the Bight

Bowline with Stopper

» p.248

✓ A variation on a Bowline which makes a good stopper at the end of a rope.

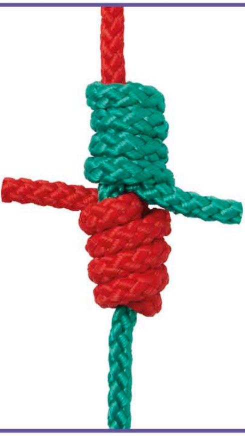
✓ Bulky and, when tight, easier to untie than a Figure of Eight or a Double Overhand Knot.



Similar knots:
» pp.242–44 Bowline – Second Method
» pp.245–47 Bowline with Two Turns

Blood Knot

- An effective method for joining together two pieces of thin line, such as fishing line.
- If tying with nylon, moisten the line to help draw it tight.
- Almost impossible to untie.
- Also known as the Barrel Knot.



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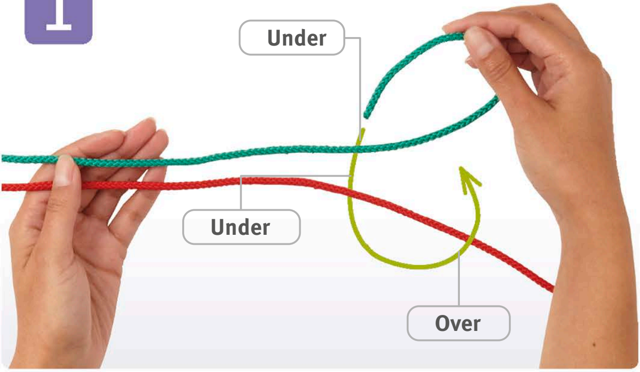
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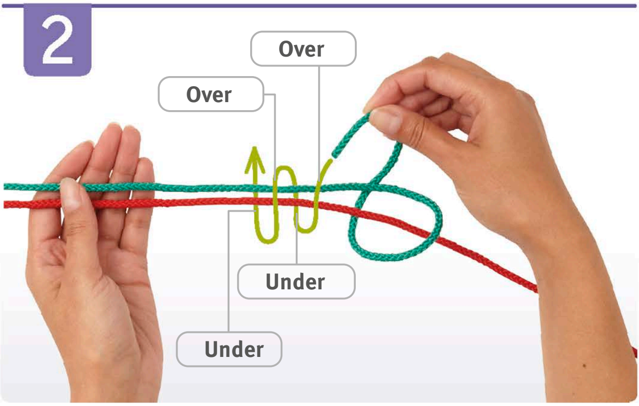
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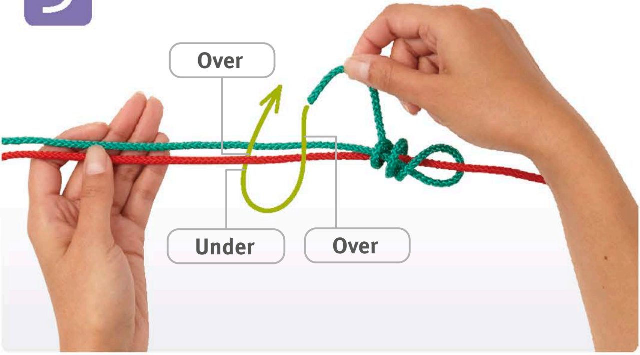
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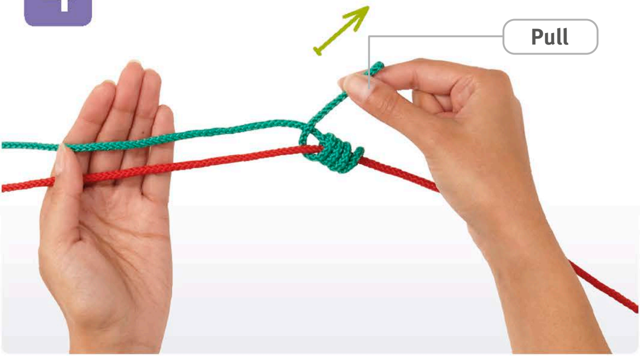

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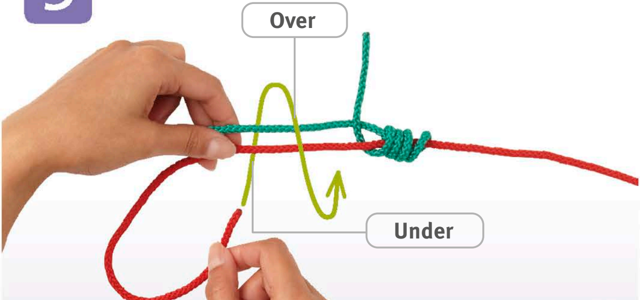

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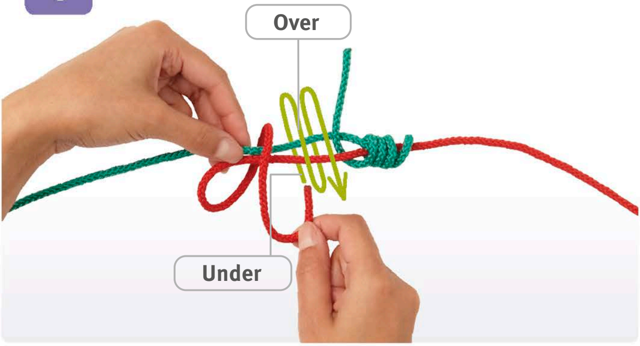

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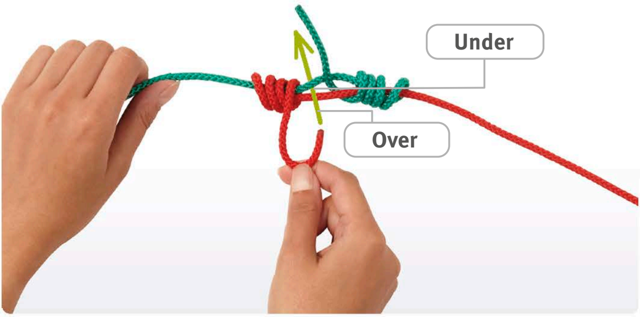

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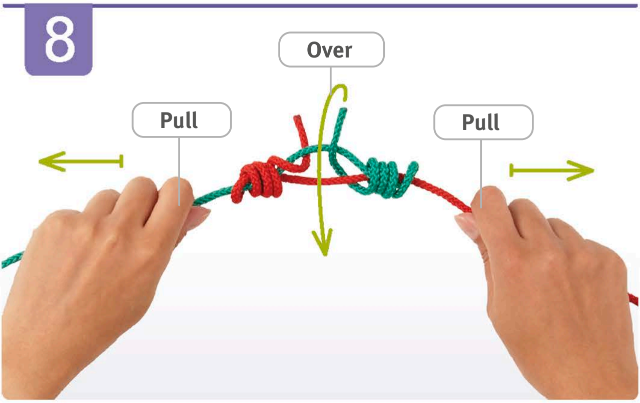
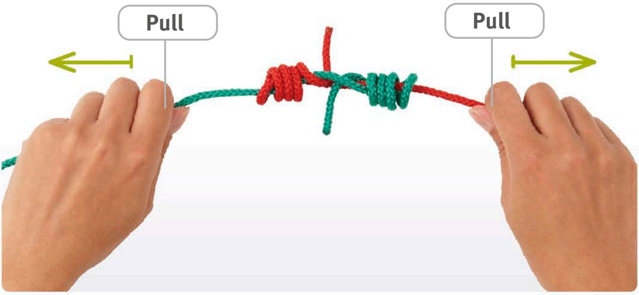

Over
Pull
Pull

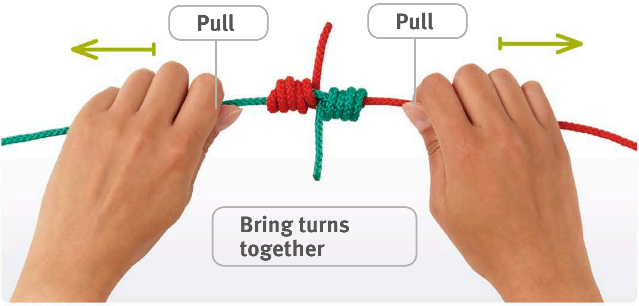
9



Pull

Pull

10

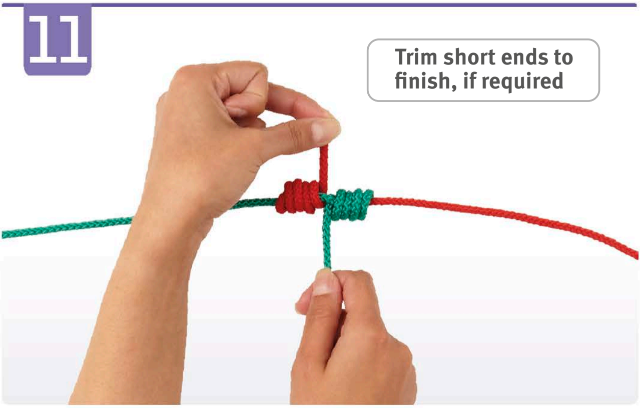


Pull

Pull

Bring turns together

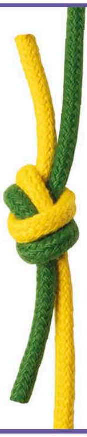
11



Trim short ends to finish, if required

Water Knot

- Good for binding two ropes together.
- Will also work well with climber’s flat tape.
- Work into a neat, flat arrangement.
- Based on the structure of the Overhand Knot (*see pp.28–29*).
- Also known as the Double Overhand Bend.



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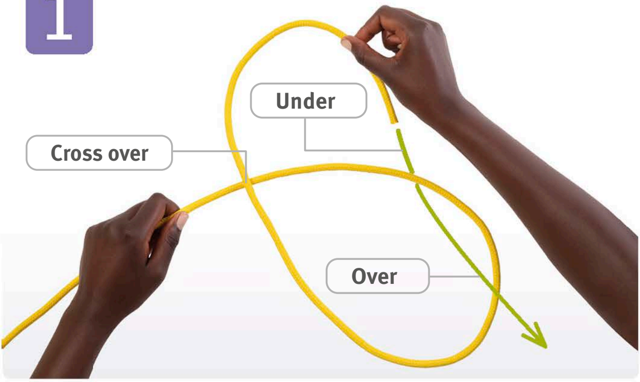
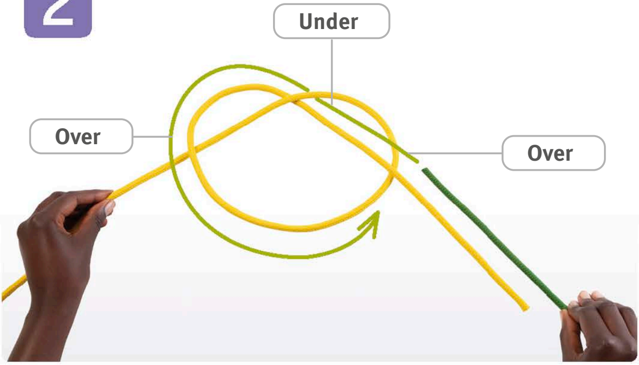

Under
Cross over
Over

2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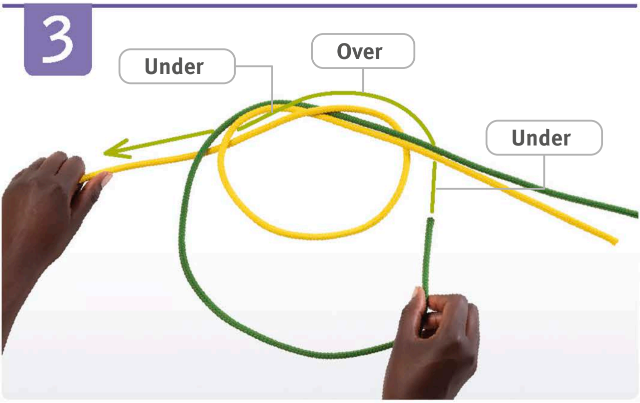
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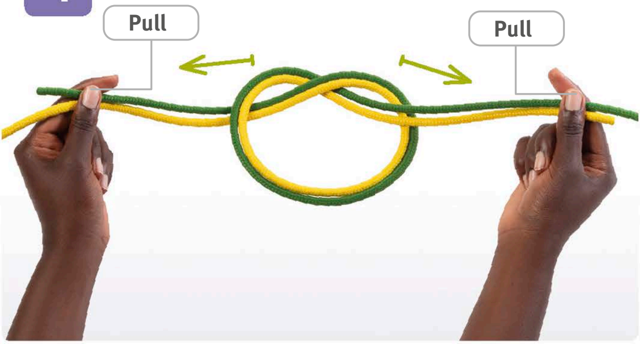

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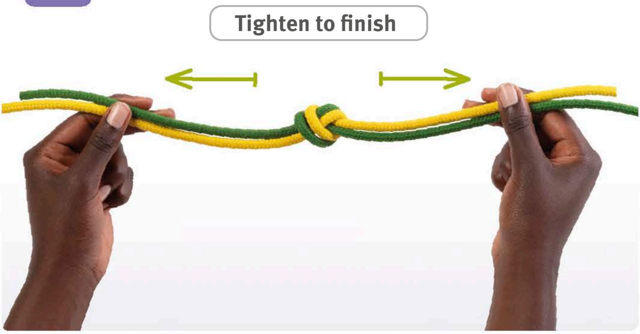
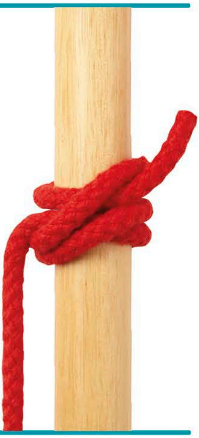

Tighten to finish

Hitches

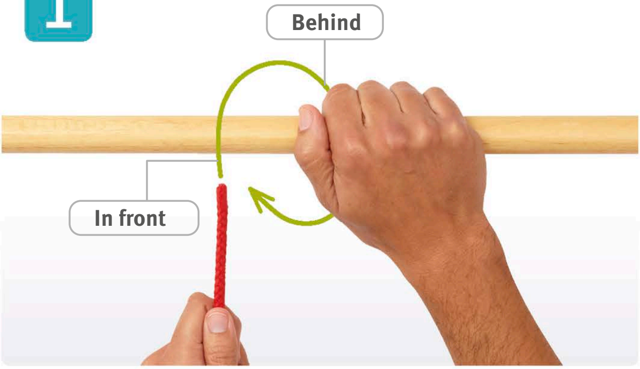
A hitch is tied to secure a rope to an object, such as a pole or ring. Many hitches – especially those that are used by sailors – are designed to be both quick to tie and easy to undo.

Rolling Hitch



- Can be used to take strain off another rope or pole.
- Suitable for use when the pull on the rope is coming from a low angle, or from the side.
- Will only slide in one direction along the pole or rope.
- Will lock if pulled in the other direction.

1



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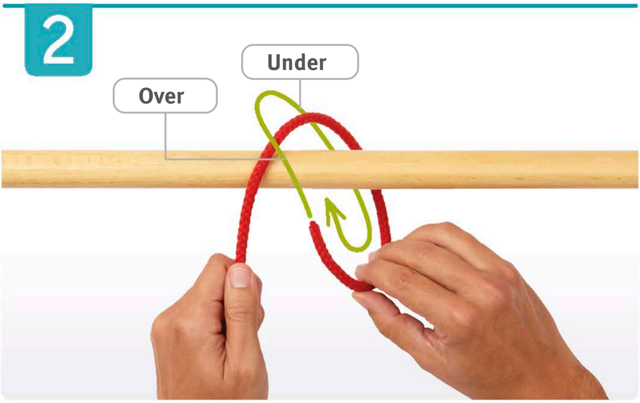

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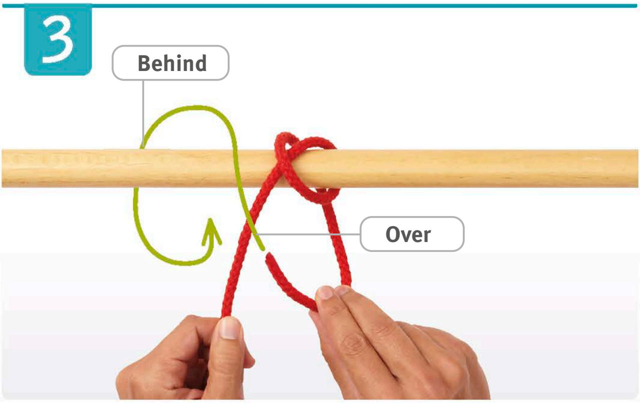
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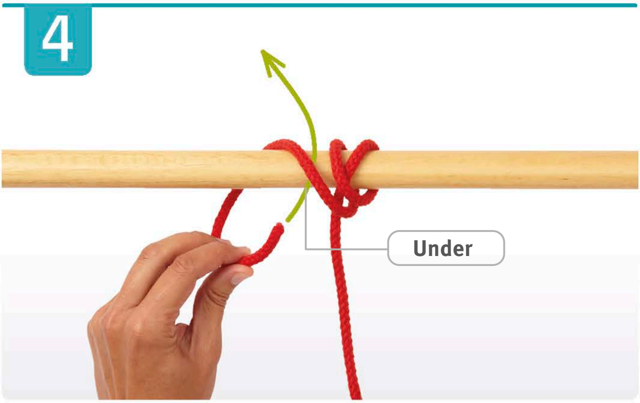

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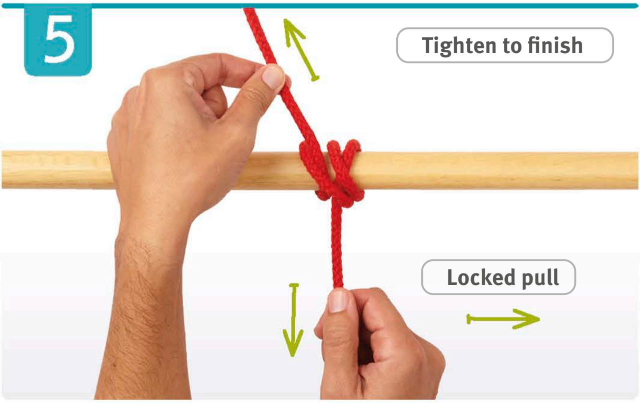
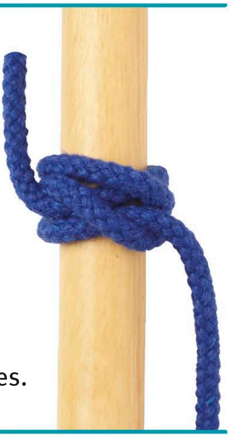
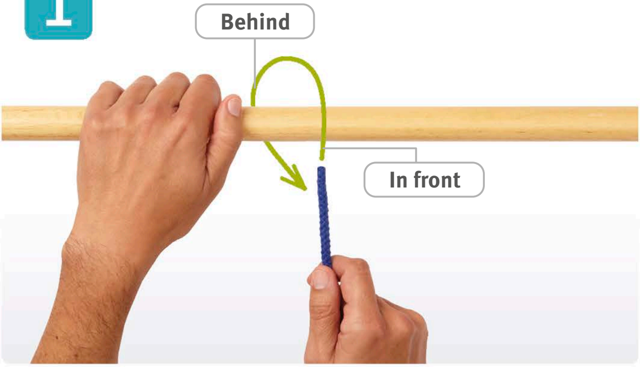

Tighten to finish
Locked pull

Mirrored Rolling Hitch



- Used to tie a rope to a pole or to take strain off another rope.
- Ensure that the second turn locks over the first.
- Make sure that the knot is tight before applying strain.
- Not suitable for stiff or slippery ropes.

1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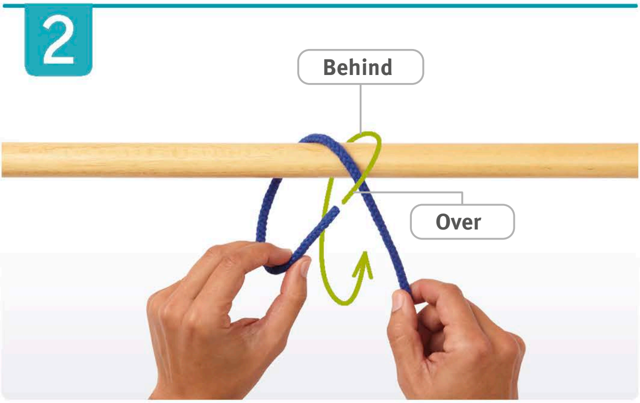
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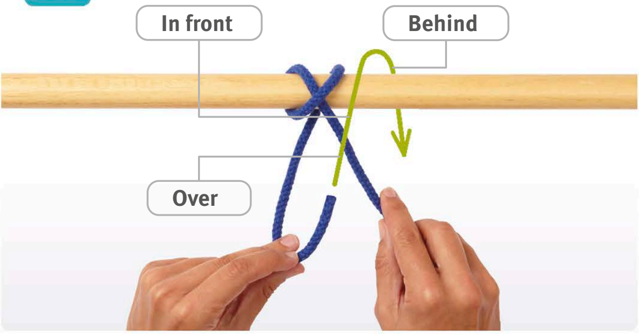
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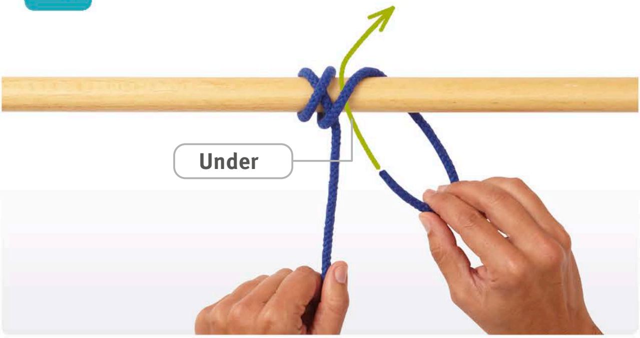

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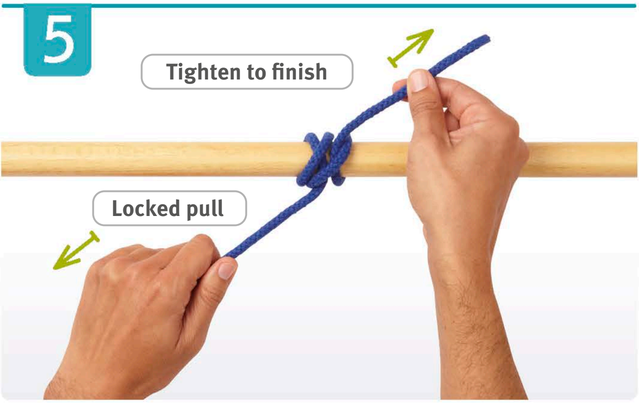
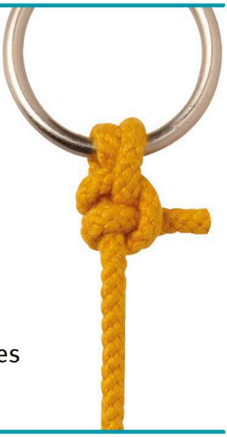
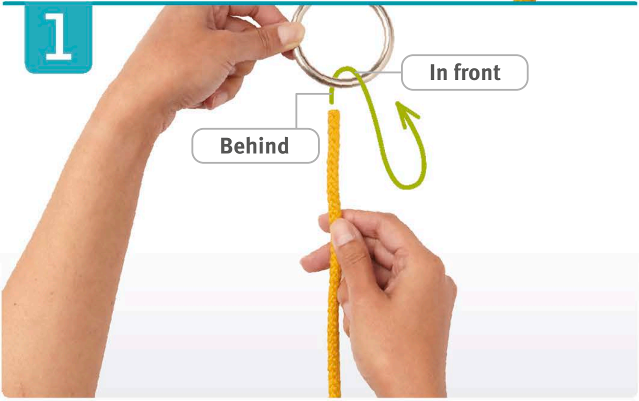

Tighten to finish
Locked pull

Round Turn and Two Half Hitches



- Used to secure a rope to a fixed object, such as a pole or ring.
- Easy to tie.
- Ensure that you make the half hitches (*see p.23*) in the same direction.

1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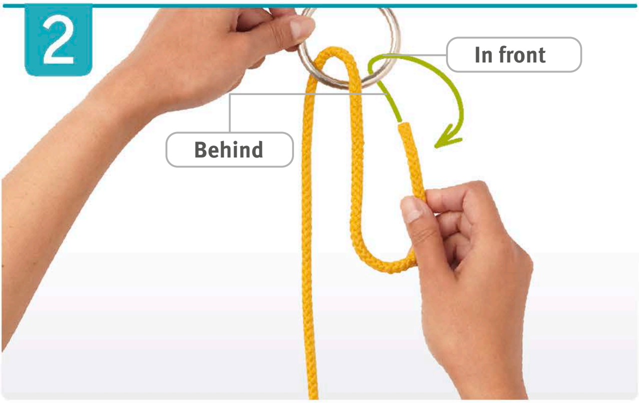
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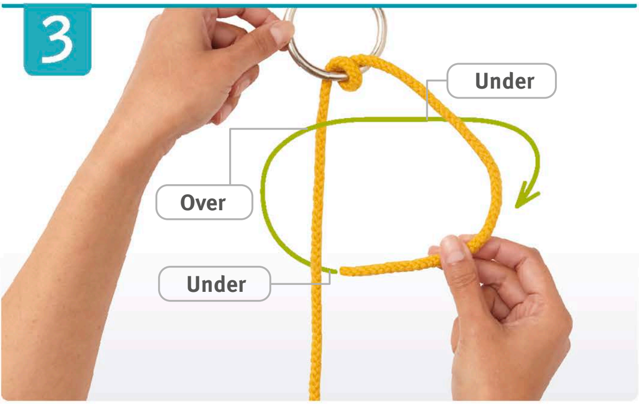
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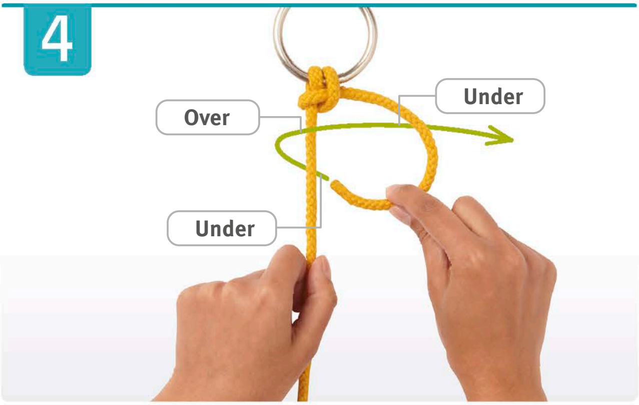
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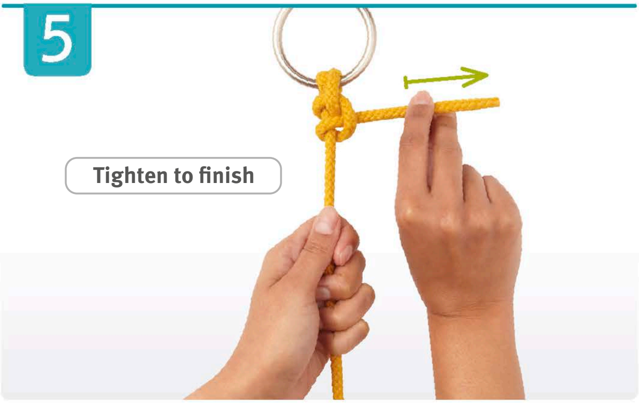
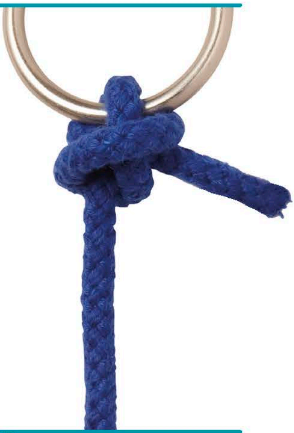

Tighten to finish

Buntline Hitch

- Used to attach a rope to an object such as a ring or pole.
- Will not come undone even when subjected to a lot of movement.
- Works well with hi-tech rope, such as Kevlar.



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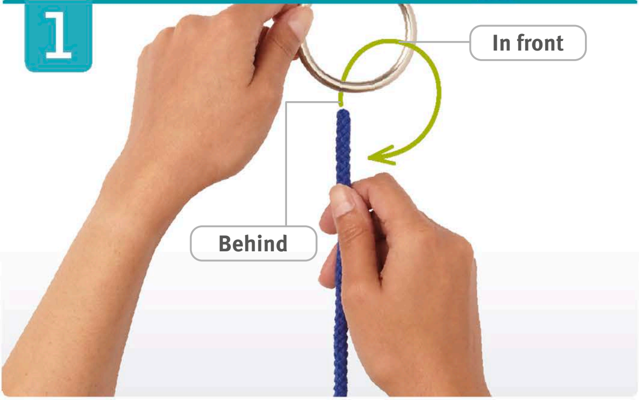
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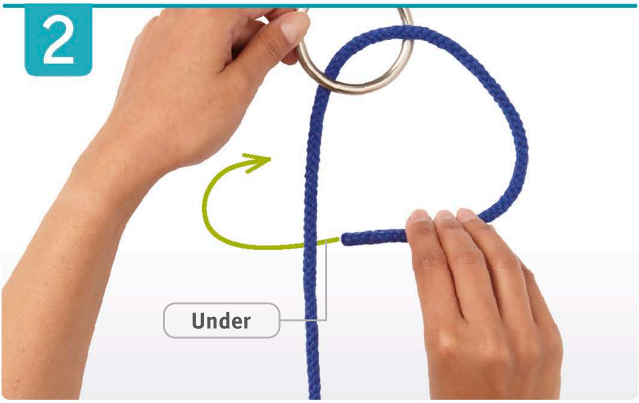

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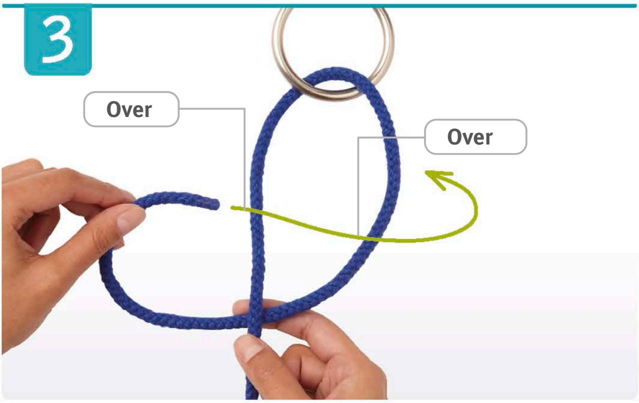

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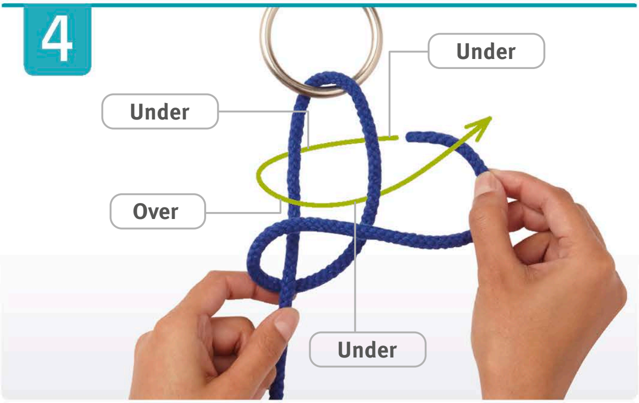
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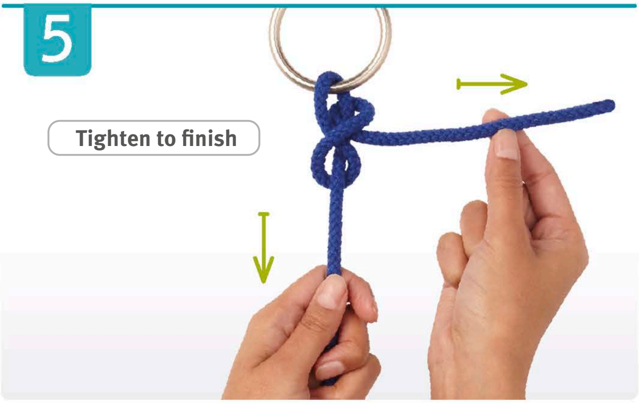
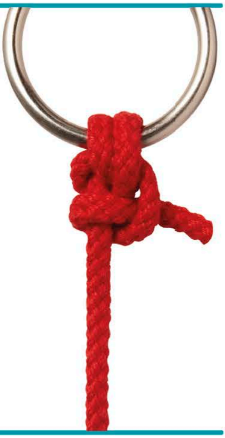
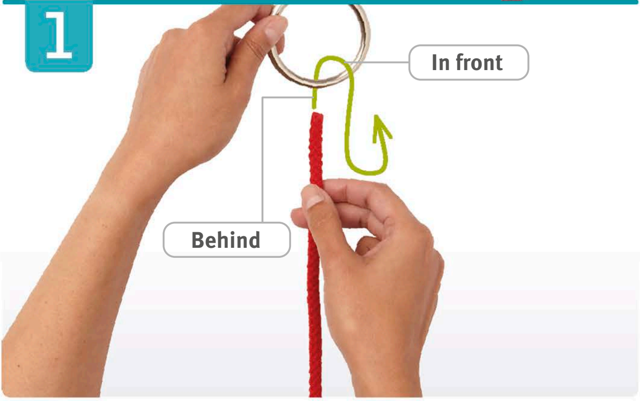

Tighten to finish

Fisherman's Bend



- Good for tying a rope to an anchor or a buoy.
- Easy to untie.
- Seize (*see pp.387–89*) the working end to the standing part to make more secure.
- Also known as the Anchor Bend.

1


In front
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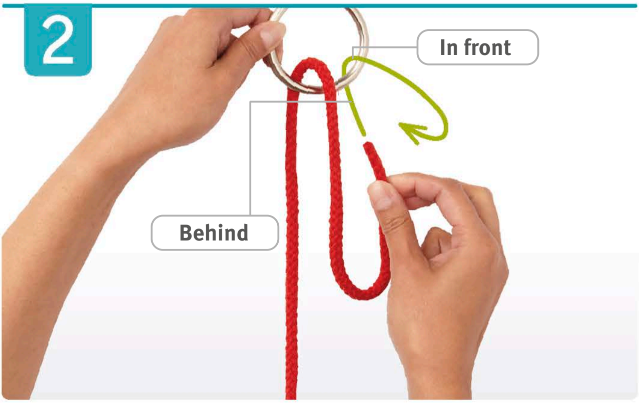
In front
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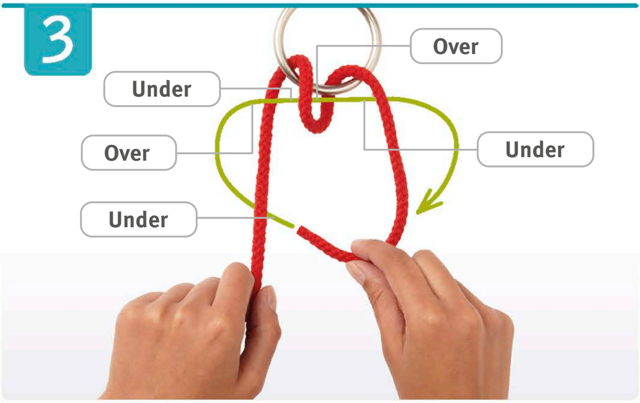
3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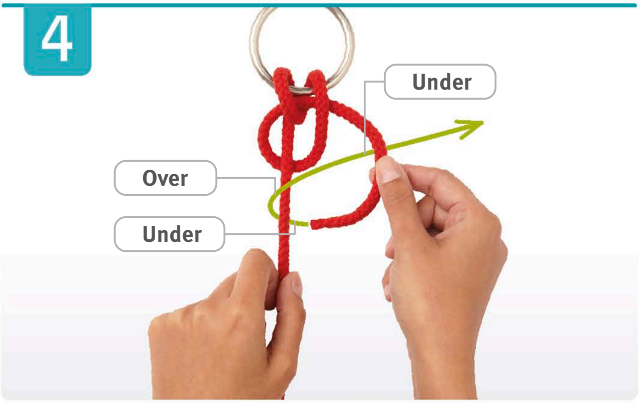
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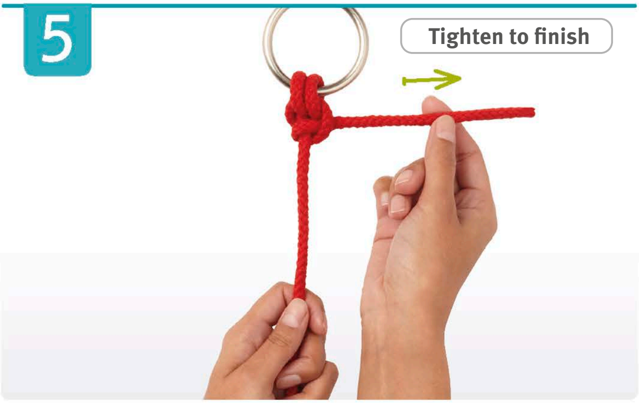

Tighten to finish

BEST FOR ...
Camping

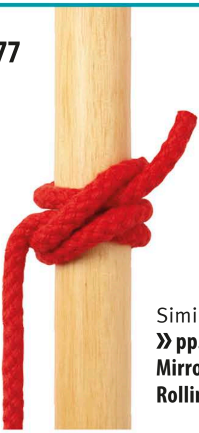
A few simple knots can make camping much easier and safer. They can be helpful in pitching a tent and transporting equipment and, in survival situations, can be used to make a shelter or lash a tarpaulin to trees.

Rolling Hitch » pp.176–77

✓ A hitch that can be used to secure guy ropes to a tent peg.

✓ Can be used to apply tension to a line if your guy ropes do not have an adjuster.

✓ Strain can be applied horizontally in one direction, or vertically.



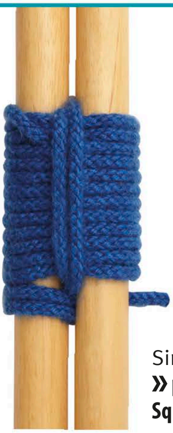
Similar knots:
» pp.178–79
Mirrored Rolling Hitch

Sheer Lashing
» pp.222–24

✓ A lashing that is perfect for making the frame of a shelter.

✓ Can also be used to attach a reinforcing piece of wood to a broken pole.

✓ If tied loosely at the end of two poles, it can be opened out into an A-frame.



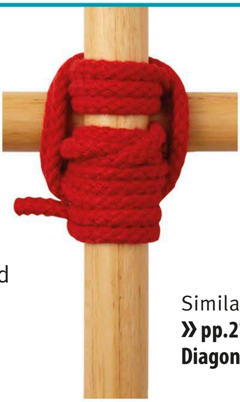
Similar knots:
» pp.211–14
Square Lashing

Square Lashing

» pp.211–14

✓ A good multi-purpose, load-bearing lashing used to tie two poles together at right angles.

✓ Can be used to build rigid structures of all sizes – useful for a temporary table or stand while camping.



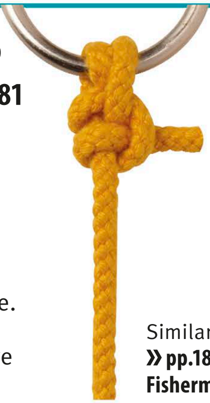
Similar knots:
» pp.215–17
Diagonal Lashing

Round Turn and Two Half Hitches **» pp.180–81**

✓ The perfect knot for attaching a line to a ring, pole, or post.

✓ Can support heavy loads, so is ideal for fastening a rope swing to a branch of a tree.

✓ Can also be used to secure a guy rope to a tent peg.



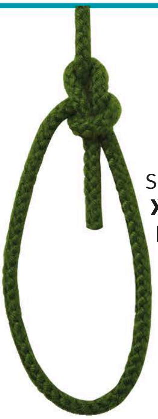
Similar knots:
» pp.184–85
Fisherman's Bend

Bowline **» pp.240–41**

✓ A simple knot for tying a loop around a fixed object.

✓ Good for tying tarpaulins or sheets – it won't slip or jam easily in windy conditions.

✓ Can also be used to hang a hammock, or attach a canoe to a trailer.



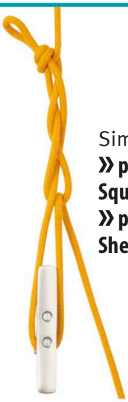
Similar knots:
» pp.245–47
Bowline with Two Turns
» pp.249–52
Figure-of-Eight Loop

Waggoner's Hitch

» pp.203–04

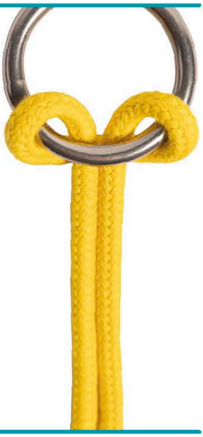
✓ Used for centuries to fasten loads onto wagons and trucks, it will secure a load tightly to a roof rack or trailer.

✓ Use where a rope needs to be pulled extra tight – the knot's lever-type action allows strain to be put on a rope.



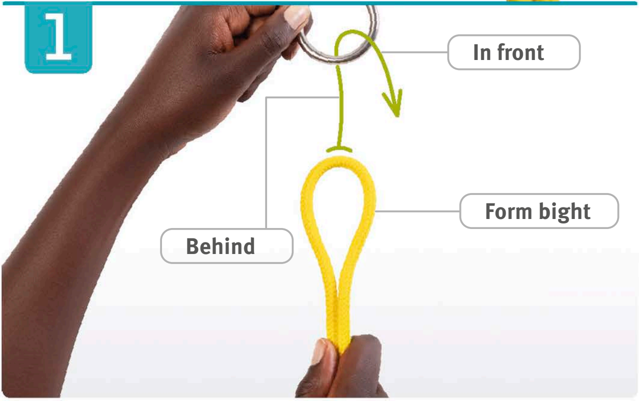
Similar knots:
» pp.211–14
Square Lashing
» pp.222–24
Sheer Lashing

Cow Hitch

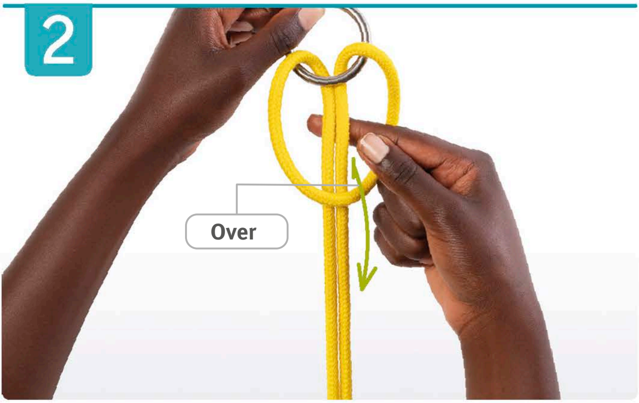


- Used to tie a rope around a ring or pole.
- Formed with two half hitches (*see p.23*) tied in opposite directions.
- The least secure of all hitches unless used with a fixed loop.
- Also known as the Lark’s Head.

1


In front
Behind
Form bight

2



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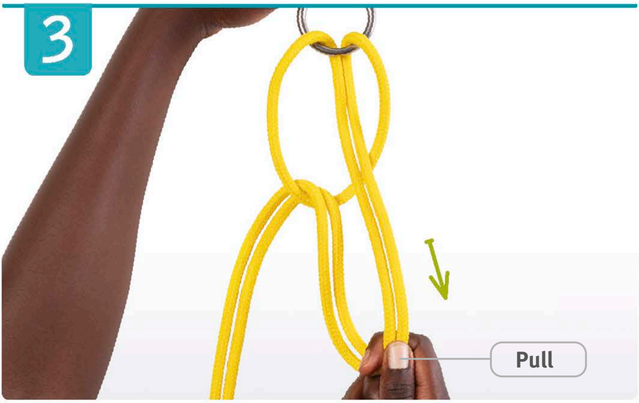

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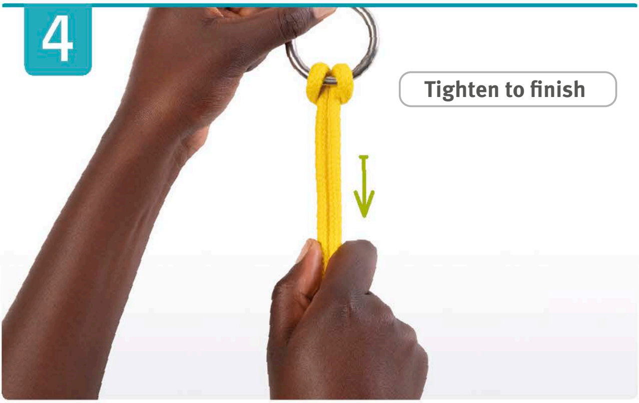
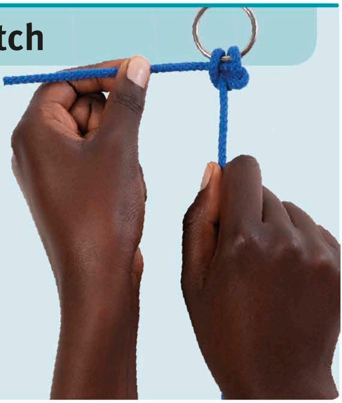


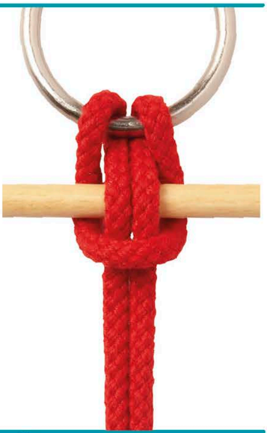
Pedigree Cow Hitch



- If only one standing part of a Cow Hitch (*see pp.190–91*) is taking strain, make it more secure by tucking the other part between the bight and ring.
- Ensure the tail is long, so it does not pull out if strain is applied.

Cow Hitch with Toggle

- Variation of a Cow Hitch (*see pp.190–91*) used when there is no access to the working end of the rope.
- Remove the toggle for quick release.



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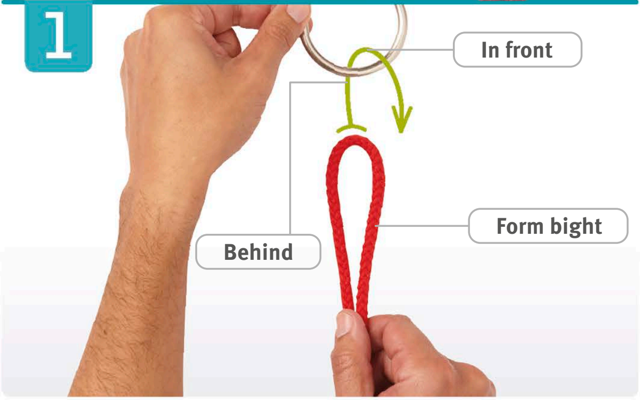
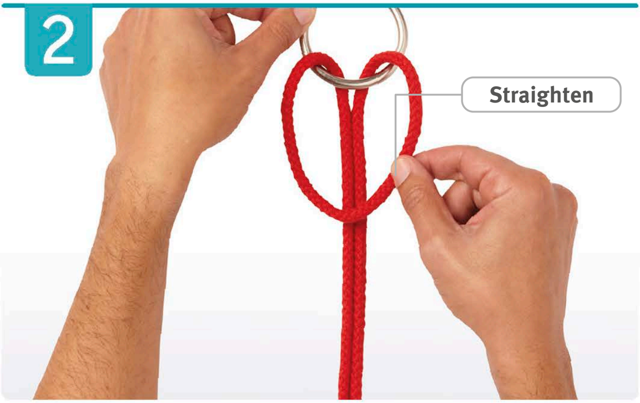
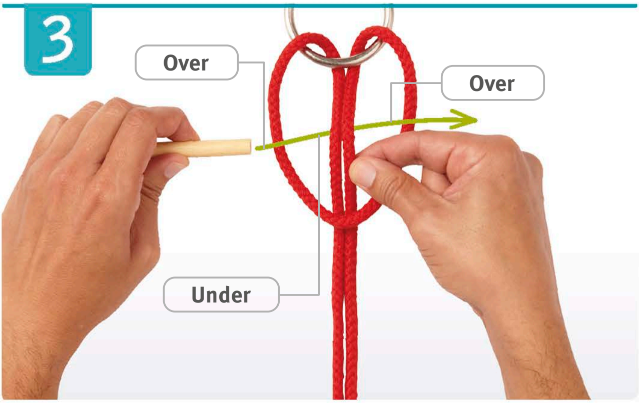

In front
Form bight
Behind

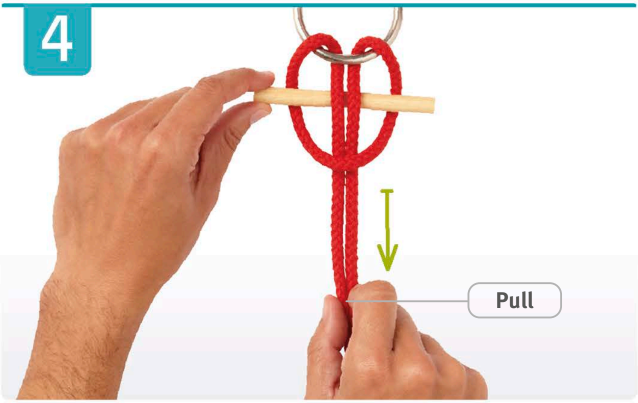
2


Straighten

3


Over
Over
Under

4



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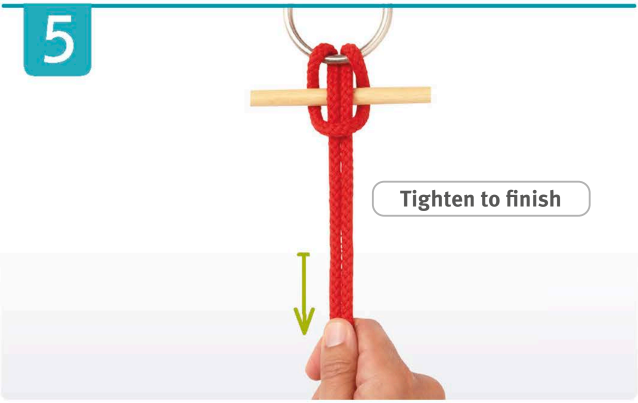
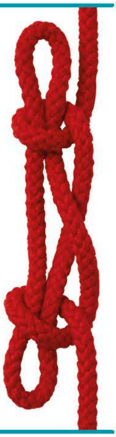

Tighten to finish

Sheepshank

- Used to shorten a rope without cutting it and to relieve the strain on worn-out parts of a rope.
- Ensure that the rope is taut to avoid slackening of the knot.
- Seize (*see pp.387–89*) the end loops to the standing parts of the rope for greater security.



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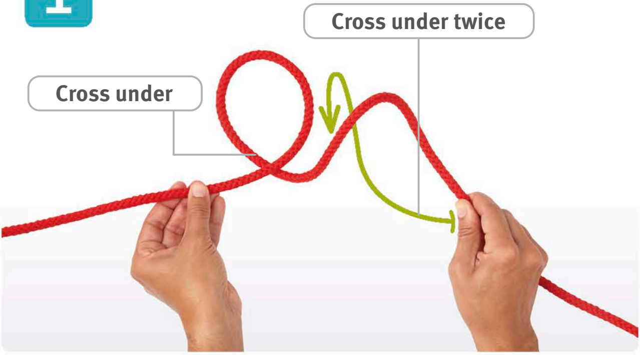
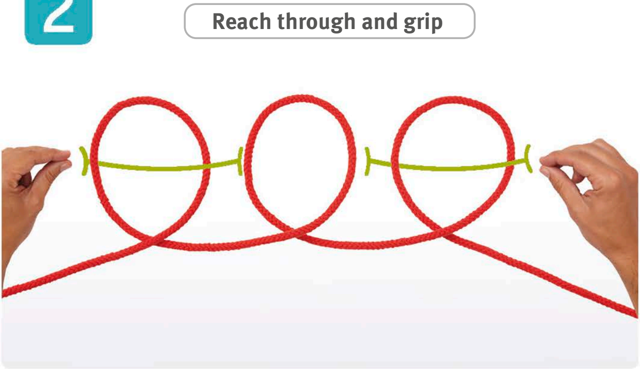
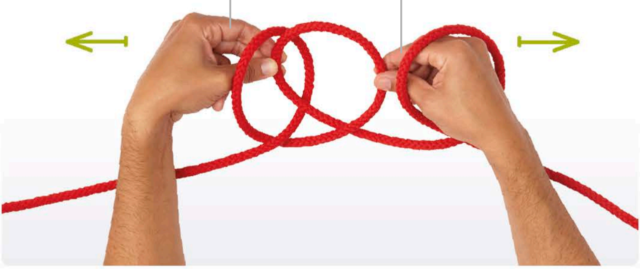

Cross under twice
Cross under

2


Reach through and grip

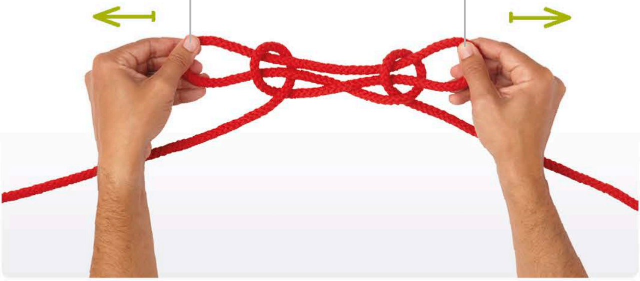
3



Pull through from behind

Pull through from front

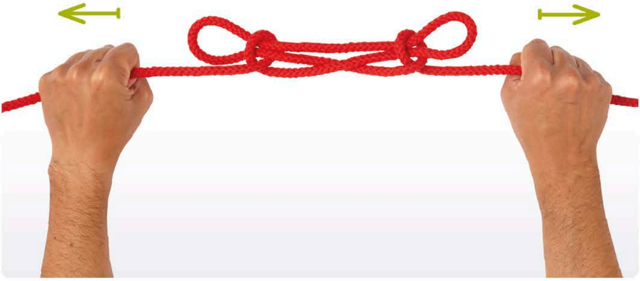
4



Pull

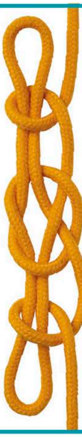
Pull

5



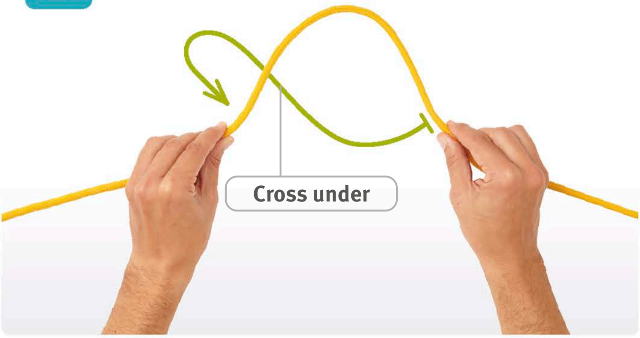
Tighten to finish

Sheepshank Man o' War



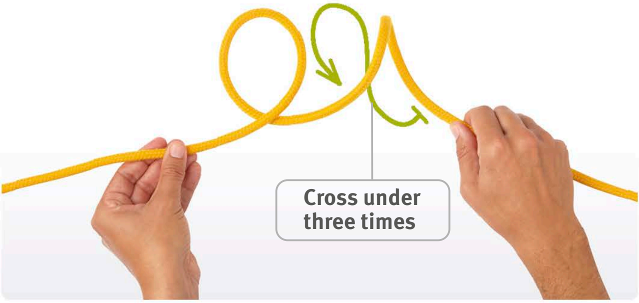
- Used to shorten a rope or to relieve tension on a worn-out part of rope.
- A secure version of the Sheepshank (*see pp.194–95*) that is easy to untie.
- Made with four half hitches (*see p.23*).
- Seize (*see pp.387–89*) the end loops to the standing parts for greater security.

1



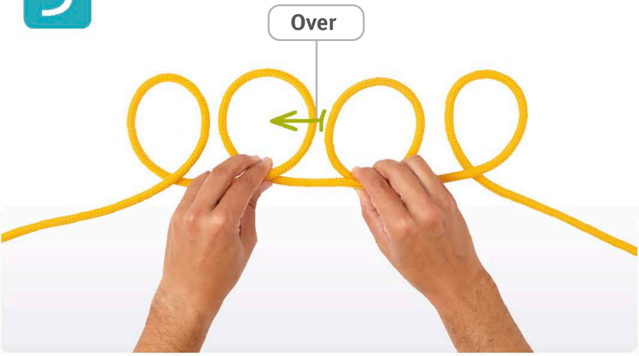
Cross under

2



Cross under three times

3



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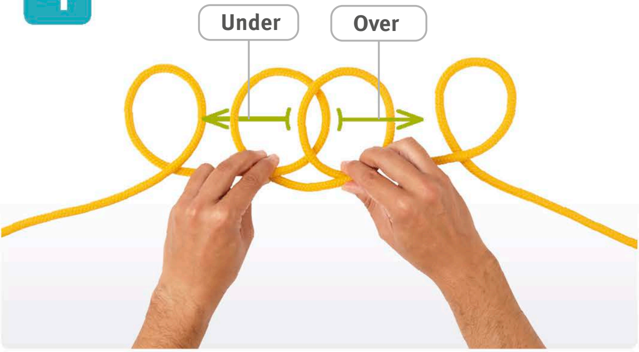

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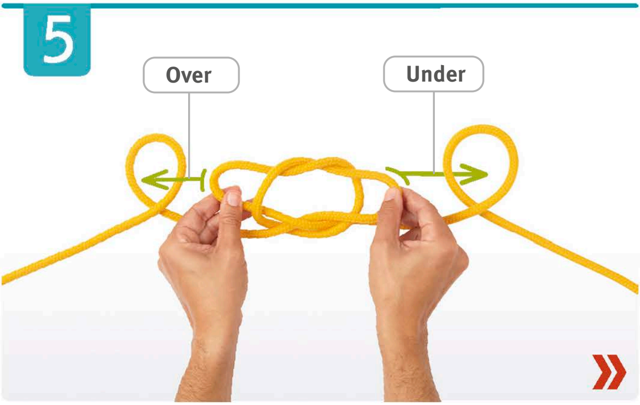
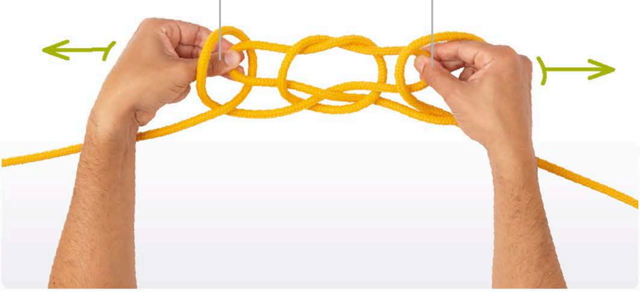


»

6

Pull through



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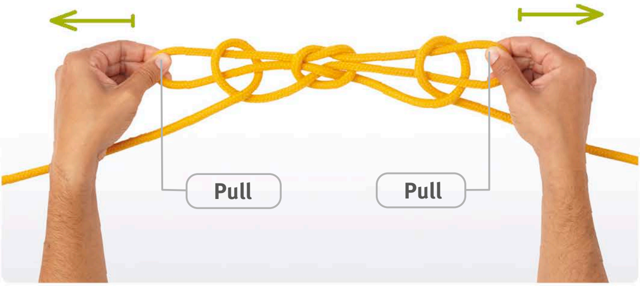
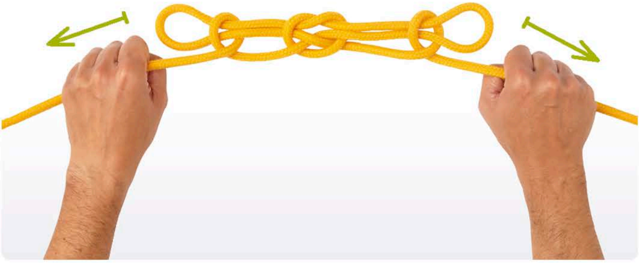


Pull

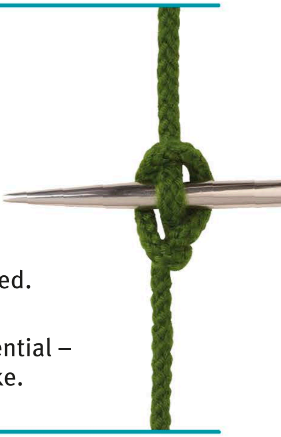
Pull

8

Tighten to finish

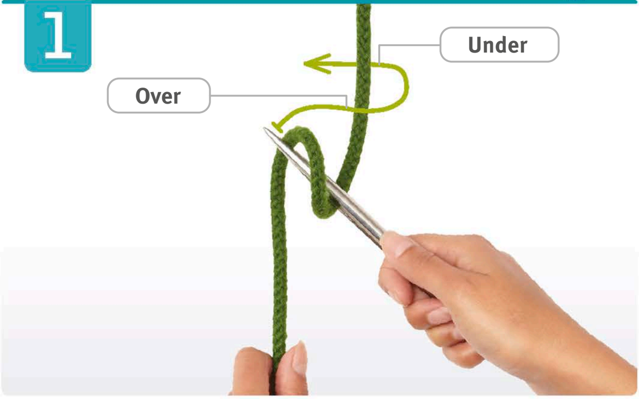


Marlinespike Hitch



- Useful for pulling on a thin line or rope.
- Quick and easy to tie – the knot disappears when the spike is removed.
- Can only be pulled in one direction.
- A marlinespike (*see p.19*) is not essential – will work with any type of rod or spike.

1



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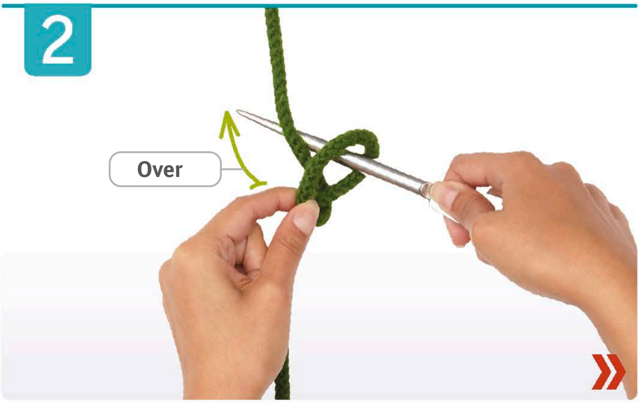

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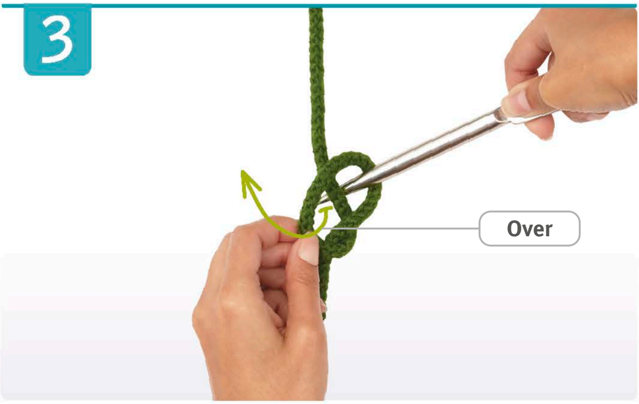
3



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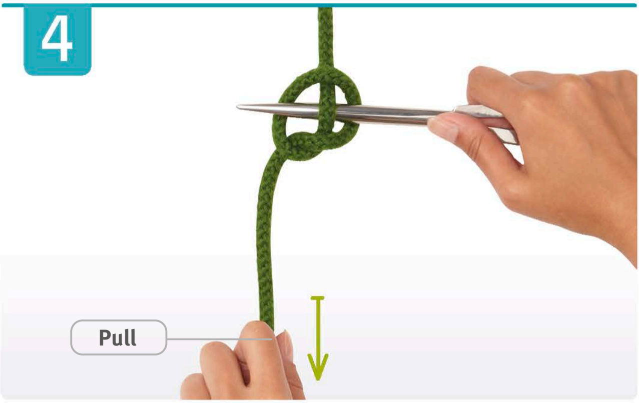
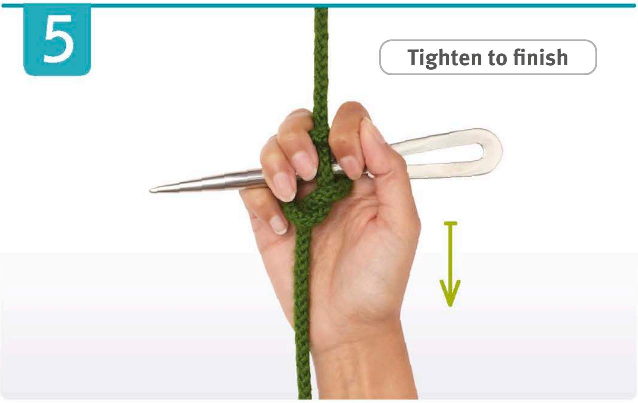
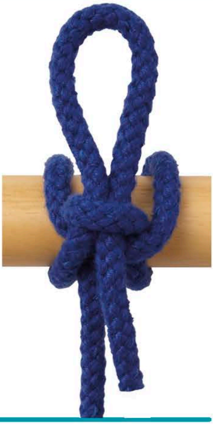


5

Tighten to finish

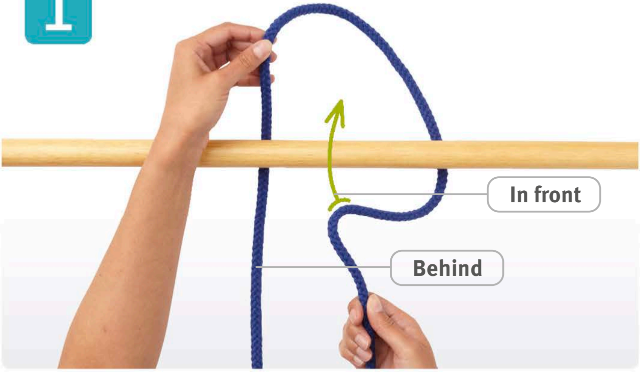


Highwayman's Hitch

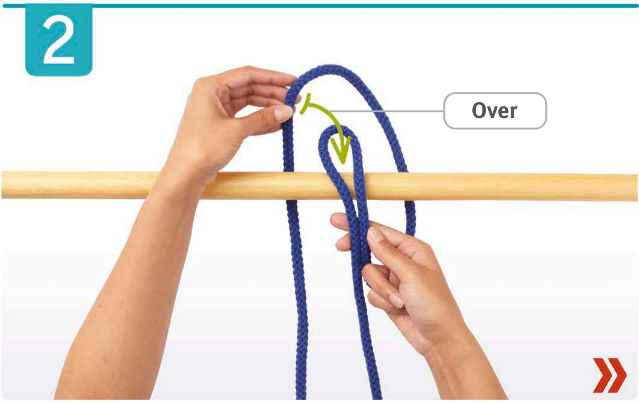


- A quick-release hitch.
- Used to tether horses.
- Ensure that the strain is placed on the standing part.
- Pull the short end to release.

1

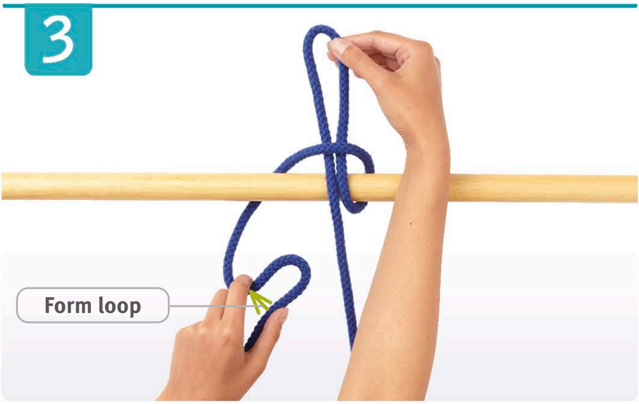

In front
Behind

2



»

3



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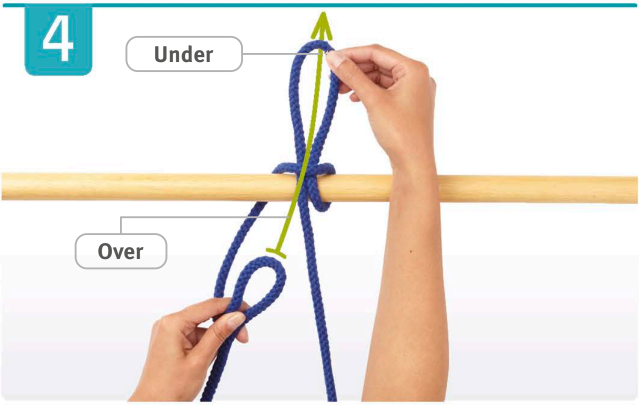

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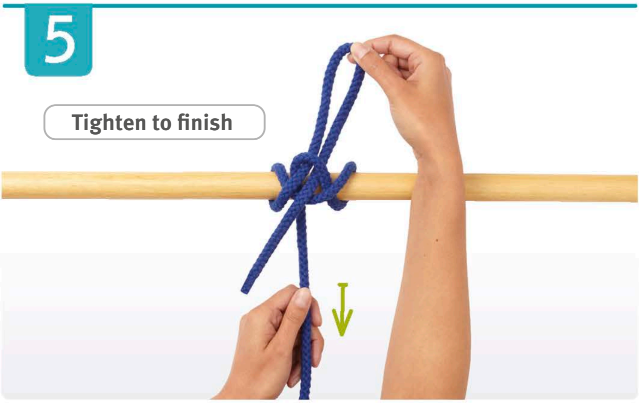
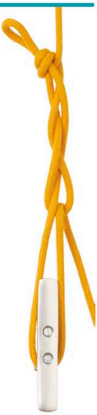
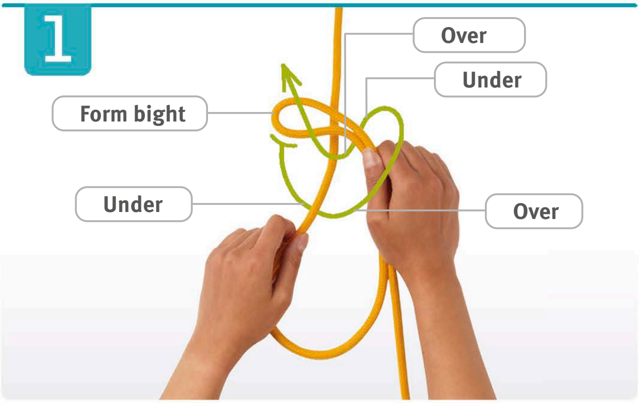

Tighten to finish

Waggoner’s Hitch

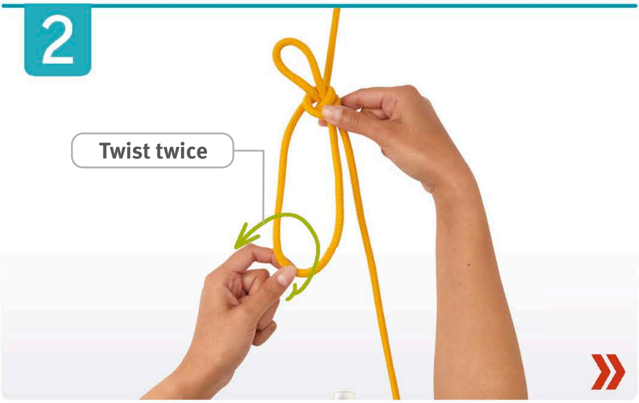


- Allows strain to be put on a length of rope.
- Traditionally used to secure loads on wagons and lorries.
- Will come undone as soon as the tension is removed.
- Constant use of this hitch in the same place on the rope can lead to rapid wear.

1

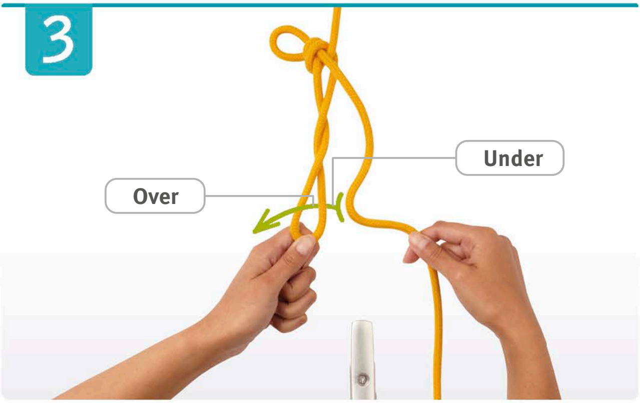

Over
Under
Form bight
Under
Over

2


Twist twice

»

3



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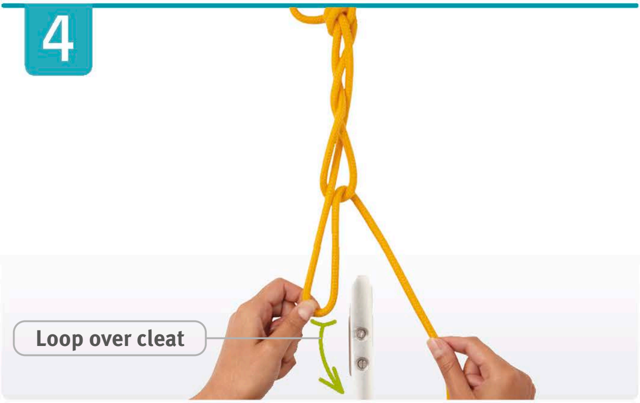
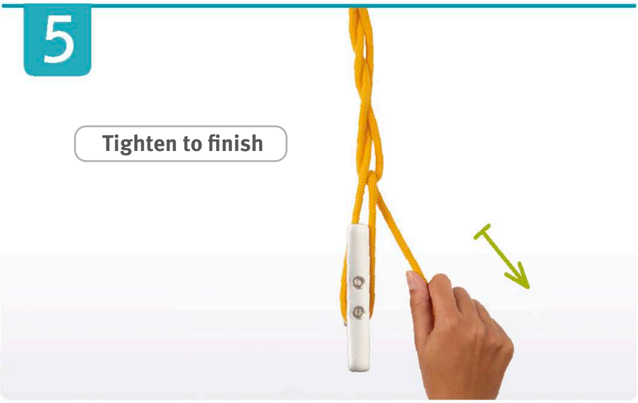

Loop over cleat

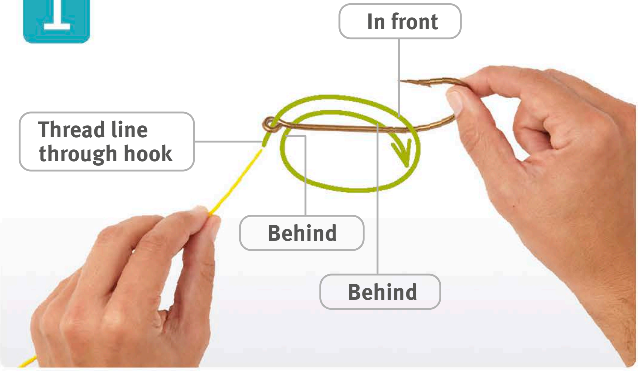
5


Tighten to finish

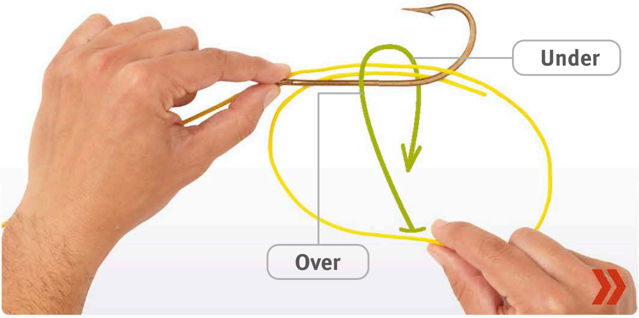
Snelling a Hook

- Used to bind a fishing line to a hook.
- Can also be used to attach a line to a hook without an eye, known as a spade-ended hook.
- Moisten the nylon line to help draw it tight.

1


In front
Thread line through hook
Behind
Behind

2



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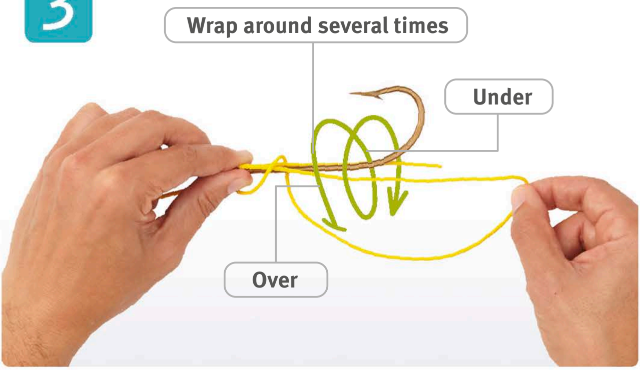
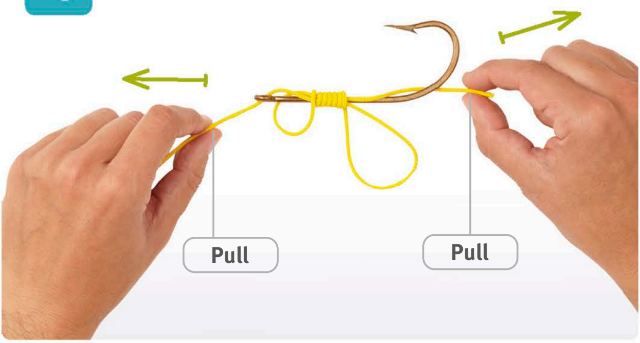
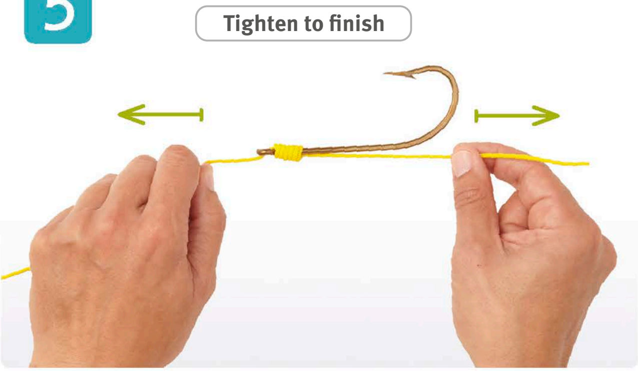

Wrap around several times
Under
Over

4

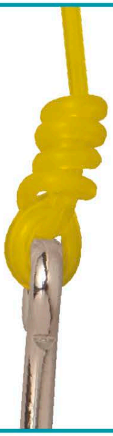

Pull
Pull

5

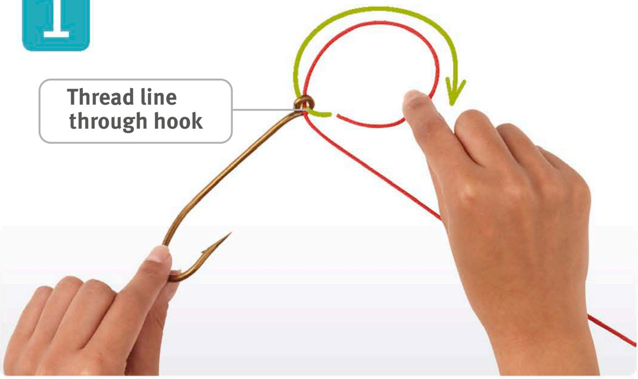

Tighten to finish

Clinch Knot

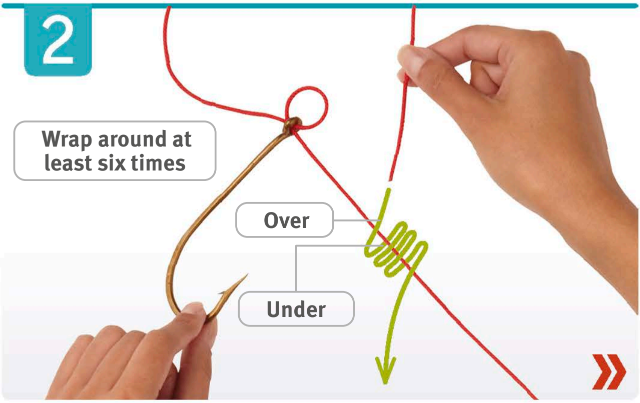
- Used to tie fishing line to the eye of a hook.
- For thicker lines, wrap around four times only.
- Moisten the line before working the knot into shape.



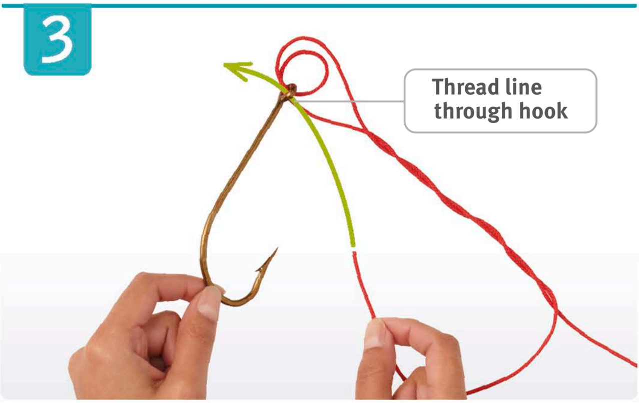
1


Thread line through hook

2

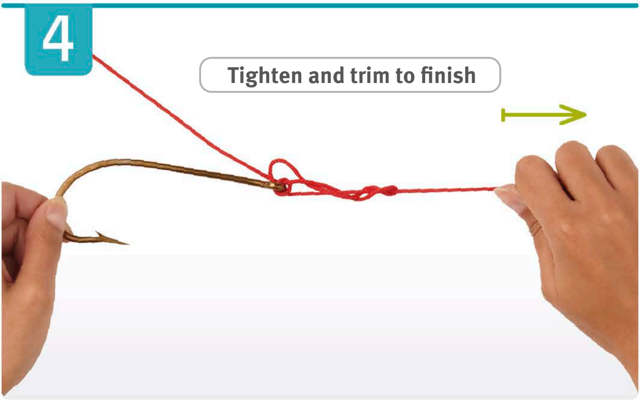

Wrap around at least six times
Over
Under
»

3



Thread line through hook

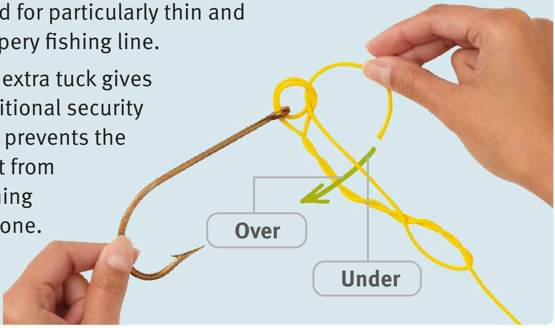
4



Tighten and trim to finish

Improved Clinch Knot

- Used for particularly thin and slippery fishing line.
- The extra tuck gives additional security and prevents the knot from coming undone.



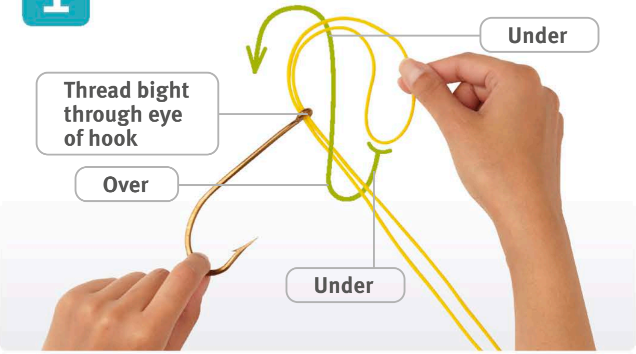
Over

Under

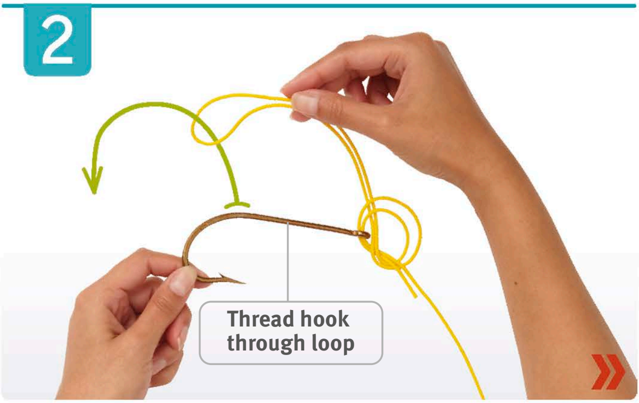
Palomar Knot

- Used to secure a fishing line to a hook or lure.
- A strong knot that works with slippery nylon line.
- Difficult to untie.
- Moisten the line to help draw it tight.

1

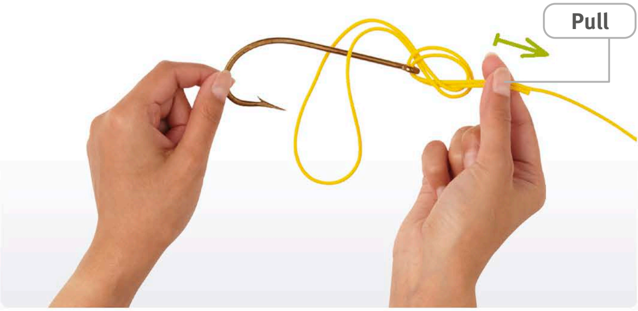

Under
Thread bight through eye of hook
Over
Under

2

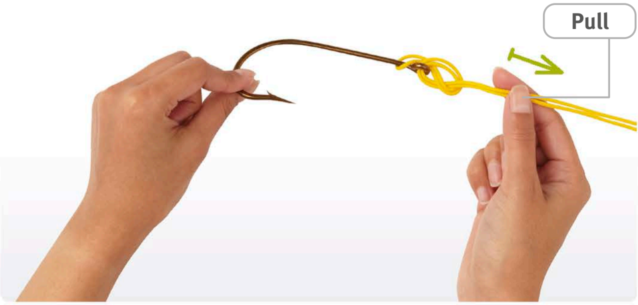

Thread hook through loop

»

3

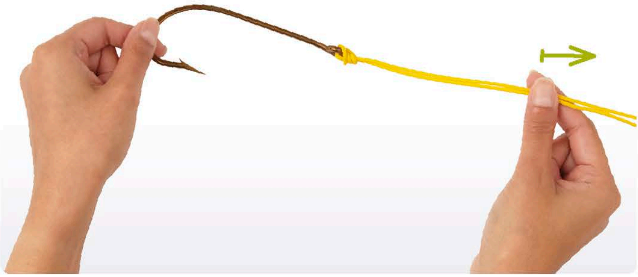

Pull

4

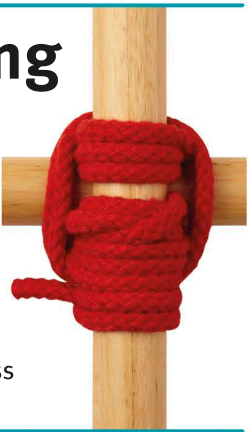

Pull

5

Tighten to finish



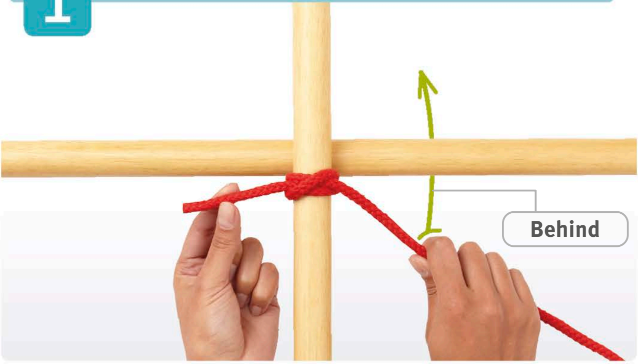
Square Lashing



- Used to lash together two poles crossing at right angles.
- Pull tight each turn before proceeding to the next one.
- Start and finish with a Clove Hitch (*see pp.105–06*).
- Ensure that the first Clove Hitch is tied below the horizontal pole.
- Tighten by making two turns across the lashing (frapping turns).

1

TIE A CLOVE HITCH (»pp.105–06)



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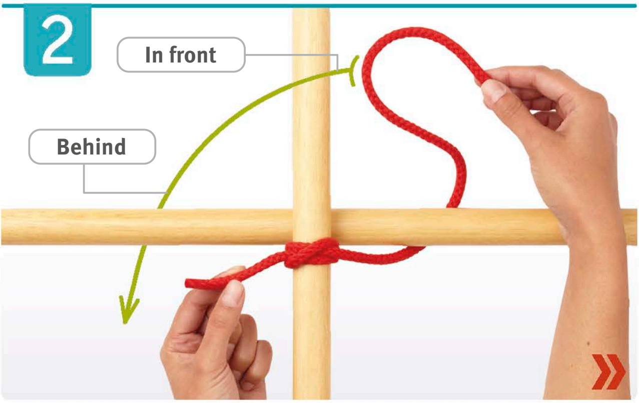
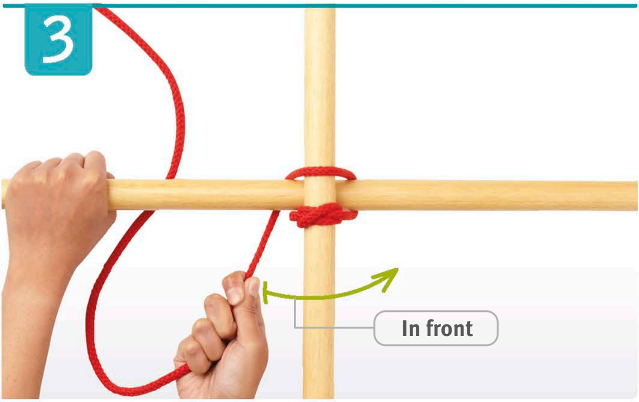
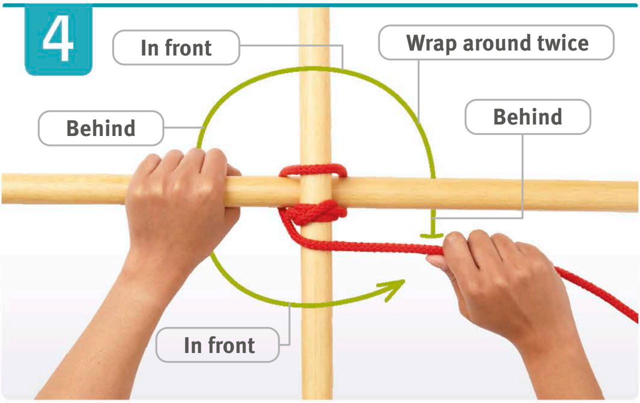


»

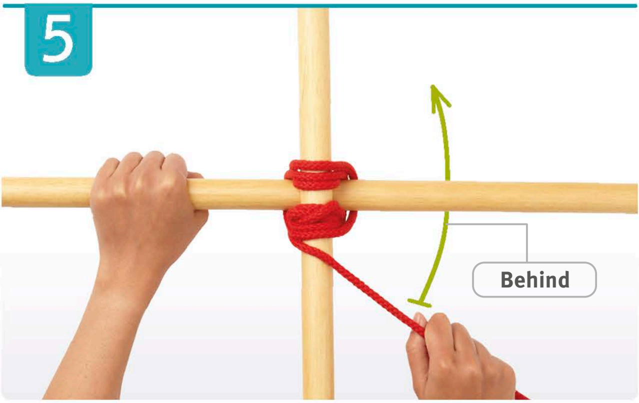
3


In front

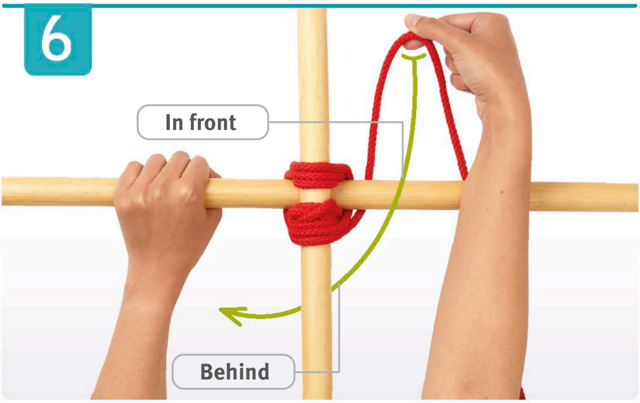
4


In front
Wrap around twice
Behind
Behind
In front

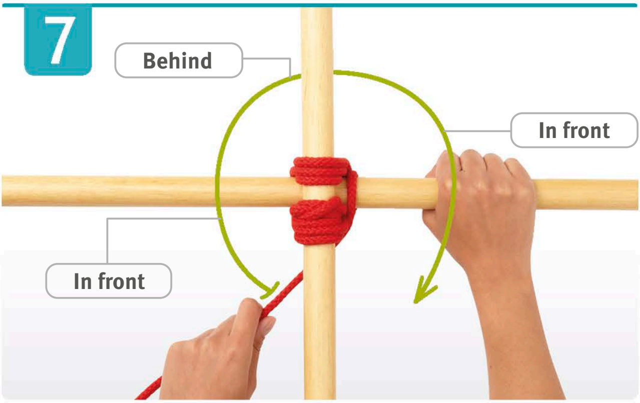
5


Behind

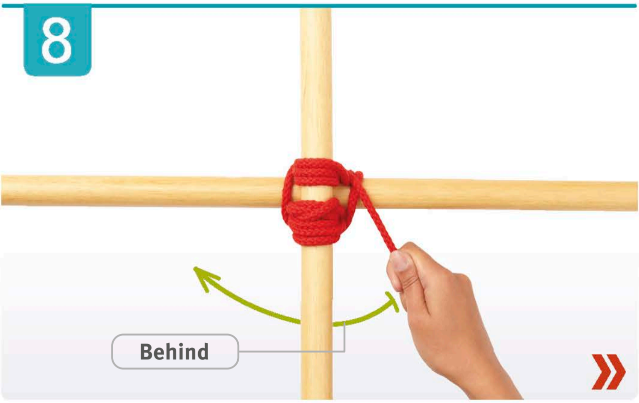
6


In front
Behind

7

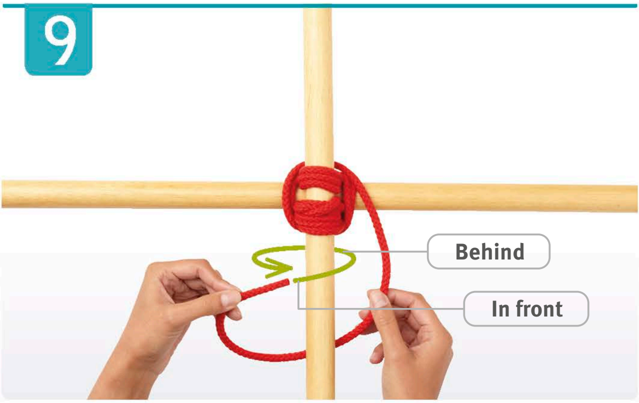

Behind
In front
In front

8

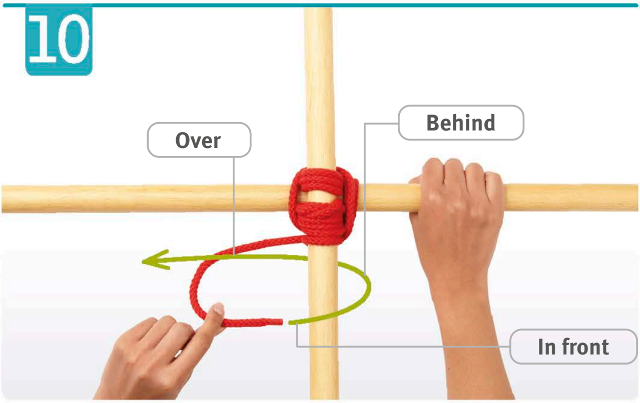


»

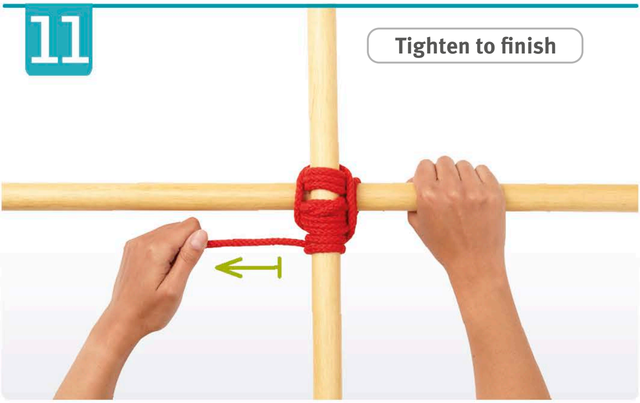
9


Behind
In front

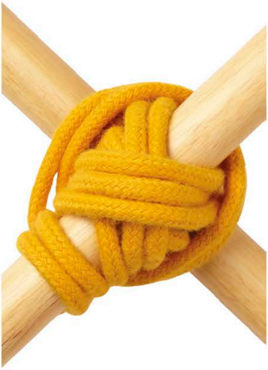
10


Over
Behind
In front

11

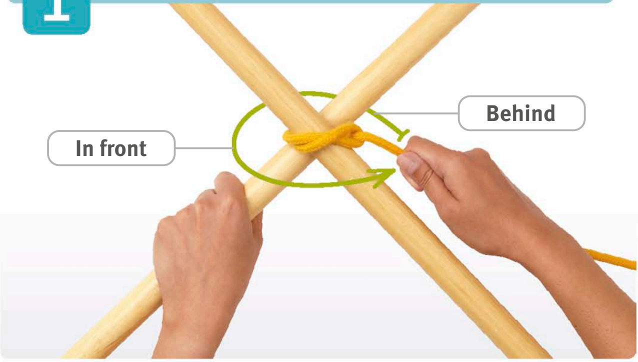

Tighten to finish

Diagonal Lashing

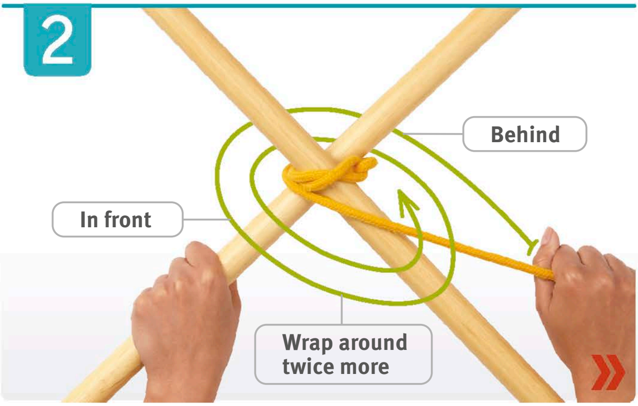


- Used to lash together two diagonal poles.
- Before you start, ensure there is enough rope to complete the lashing.
- Tighten with two turns across the lashing (frapping turns).
- Finish with a Clove Hitch (*see pp.105–06*).

1 TIE A TIMBER HITCH (»pp.111–13)

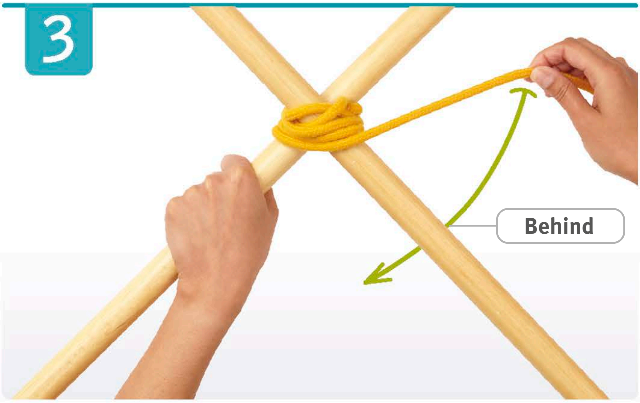

In front
Behind

2

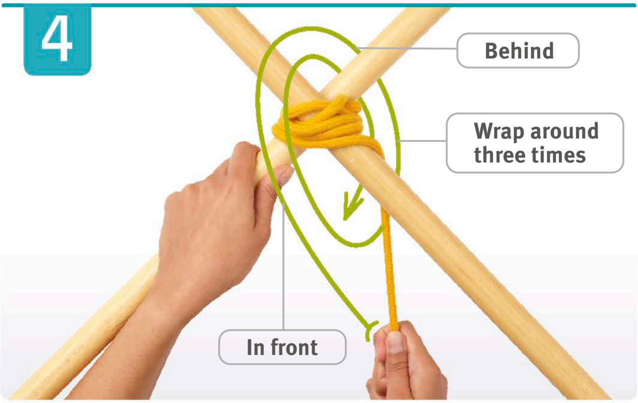

Behind
In front
Wrap around twice more

»

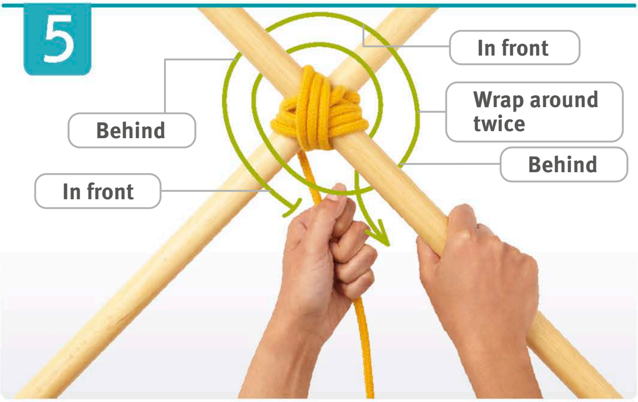
3


Behind

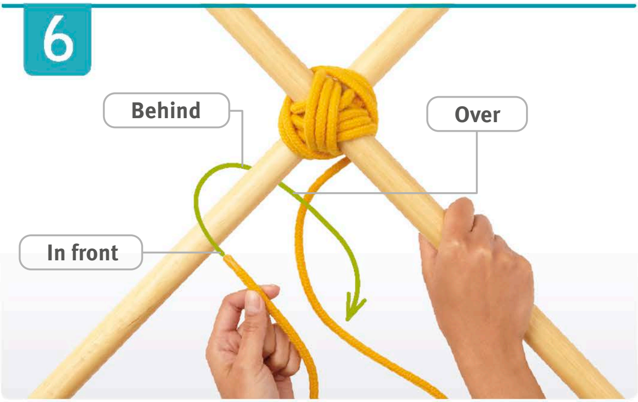
4


Behind
Wrap around three times
In front

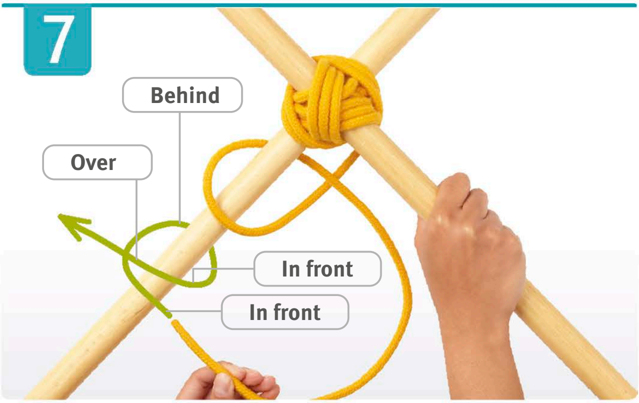
5


In front
Wrap around twice
Behind
Behind
In front

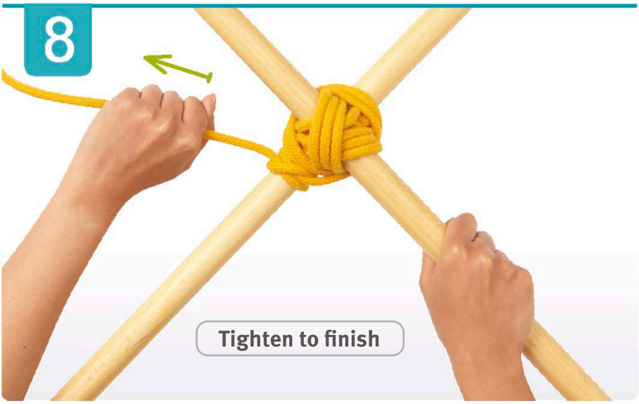
6


Behind
Over
In front

7


Behind
Over
In front
In front

8


Tighten to finish

BEST FOR ...
Gardening

There are several uses for knots around the garden, from simple jobs like tying a plant to a support, to bigger tasks such as lashing canes together to make a trellis or fixing a swing to a tree.

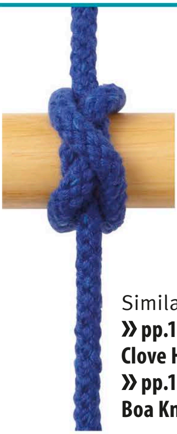
Constrictor Knot

» pp.109–10

✓ Good for fixing a hose in position if you do not have a hose clip.

✓ Can also be used to draw together a bundle of objects such as logs.

✗ Difficult to untie once it has been put under strain – it may need to be cut.



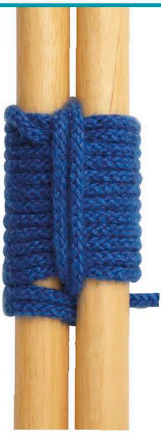
Similar knots:
» pp.105–06
Clove Hitch
» pp.114–16
Boa Knot

Sheer Lashing

» pp.222–23

✓ The perfect knot for tying two canes together to make a support for a plant.

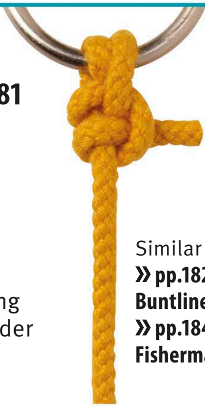
✓ Can also be used with thinner line to tie a sapling to a support post.



Similar knots:
» pp.211–14
Square Lashing
» pp.215–17
Diagonal Lashing

Round Turn and Two Half Hitches » pp.180–81

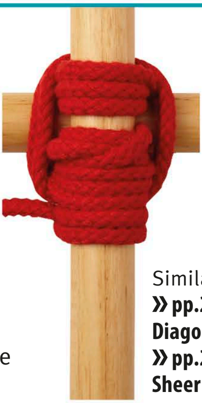
- ✓ Useful for tying a line to a ring or post.
- ✓ Can also be used to tie a swing to a tree branch.
- ✗ If used for a swing, padding may need to be placed under the rope to protect the tree.



Similar knots:
» pp.182–83
Buntline Hitch
» pp.184–85
Fisherman's Bend

Square Lashing
» pp.211–14

- ✓ Good for making support frames for vegetables such as beans or tomatoes.
- ✓ Can also be used to make a trellis.
- ✓ Add frapping turns to make the knot more secure.



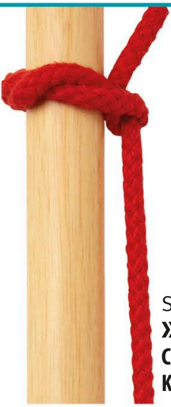
Similar knots:
» pp.215–17
Diagonal Lashing
» pp.222–23
Sheer Lashing

Timber Hitch

» p.111–13

✓ A good hitch for tying up bundles of branches, as its tightening action increases with strain.

✓ Can be finished with a half hitch for extra security when dragging larger loads, or transporting a bundle over a long distance.



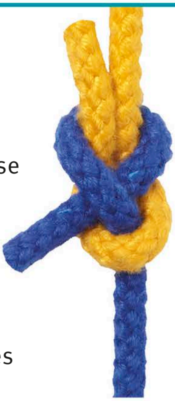
Similar knots:
» pp.109–10
Constrictor Knot

Sheet Bend

» pp.140–41

✓ Best used for joining ropes together because it is quick and easy to tie, and unlikely to untie accidentally.

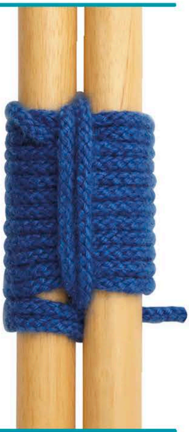
X A Double Sheet Bend is required when joining ropes of different diameters.



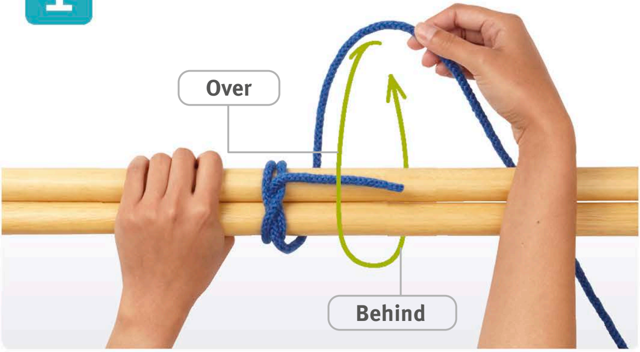
Similar knots:
» pp.105–06
Clove Hitch
» pp.144–45
Double Sheet Bend
» pp.157–59
Fisherman's Knot

Sheer Lashing

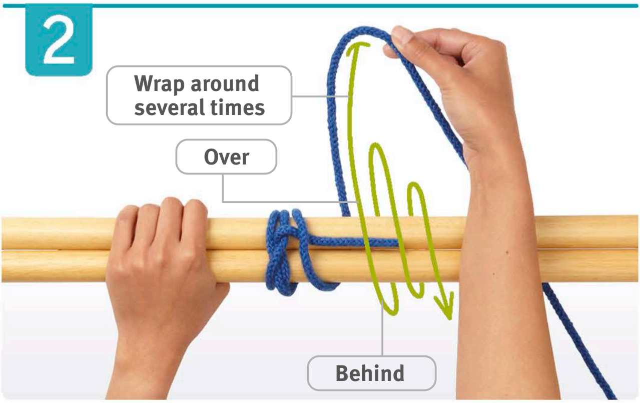
- Used for lashing together adjacent poles.
- Also used to reinforce a weak pole.
- Tighten by making two turns across the lashing (frapping turns).
- Start and finish with a Clove Hitch (*see pp.105–06*).
- Ensure the first Clove Hitch is tied around both poles.



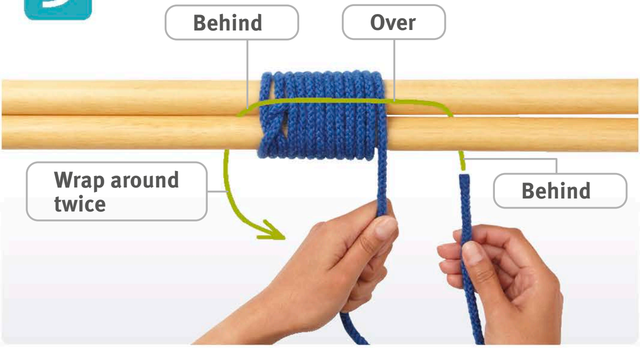
1 TIE A CLOVE HITCH (»pp.105–06)


Over
Behind

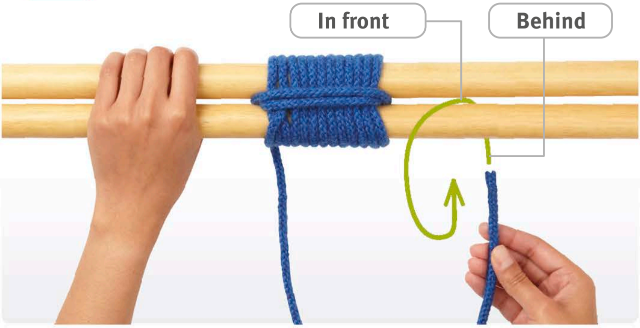
2


Wrap around several times
Over
Behind

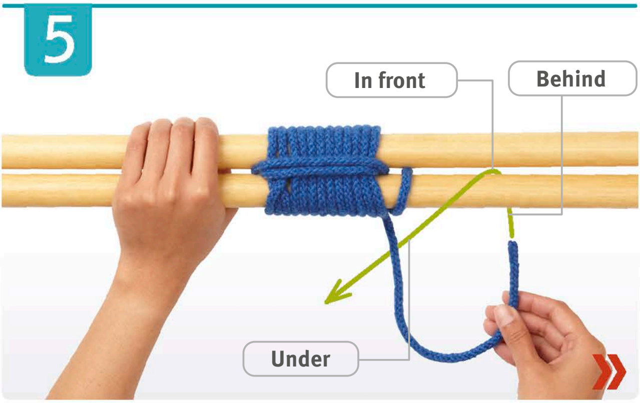
3


Behind
Over
Wrap around twice
Behind

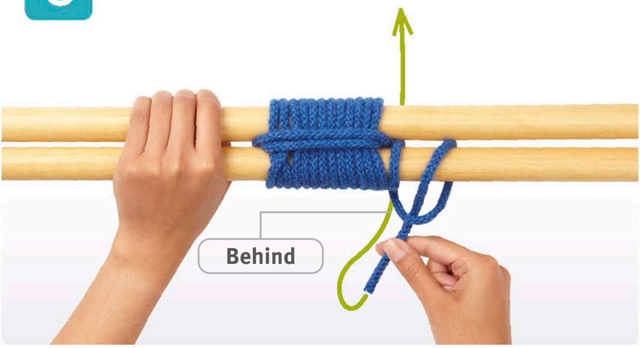
4


In front
Behind

5


In front
Behind
Under
»

6



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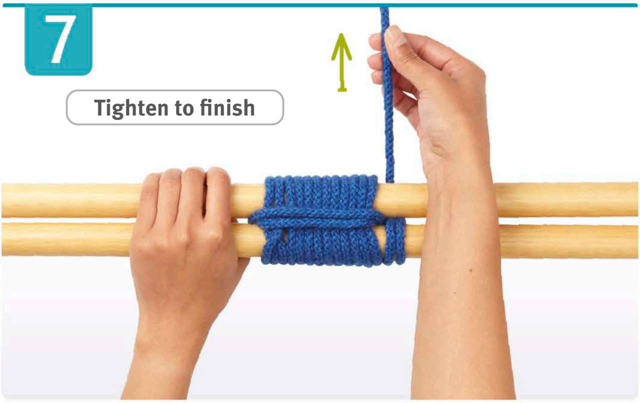
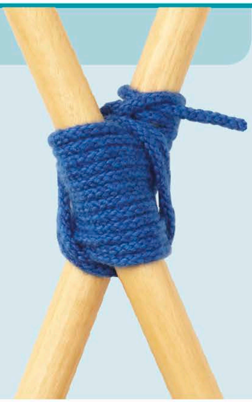

Tighten to finish

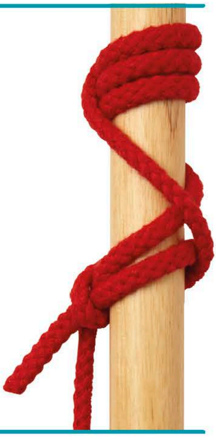
A-Frame Lashing

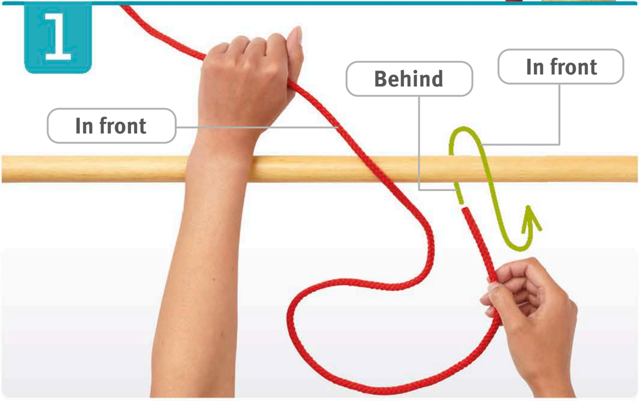
- Follows the same process as a Sheer Lashing (*see pp.222–24*).
- Can be used to form the legs of a rope bridge.
- Make the turns looser, so the poles can be pulled into an "A" shape.

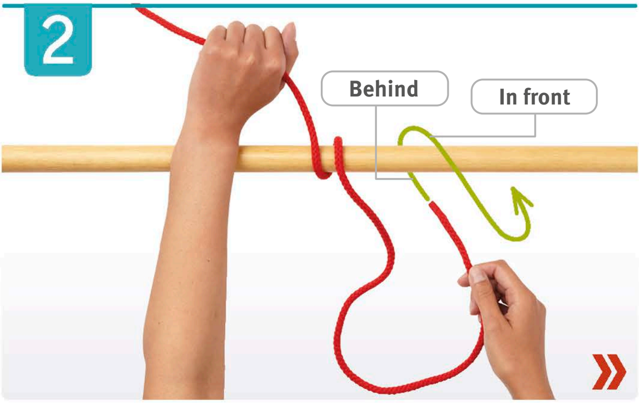


Icicle Hitch

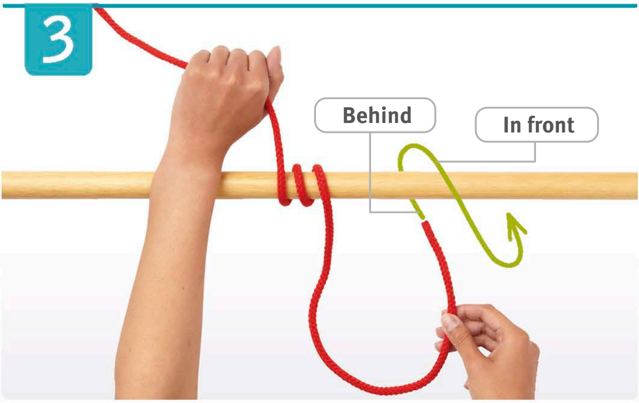
- More grip than the Rolling Hitch (*see pp.176–77*).
- Good for use on slippery surfaces.
- For additional grip, add extra turns at the start of the knot.
- Ensure that the first series of turns are locked under the diagonal turn.
- For increased security, hold the line with your hand as strain is applied.



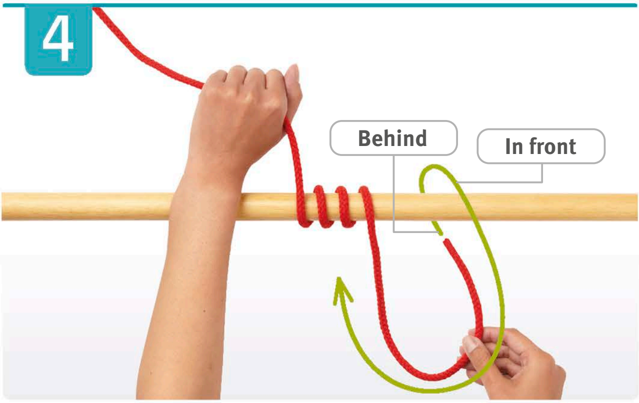

1
In front
Behind
In front


2
Behind
In front
»

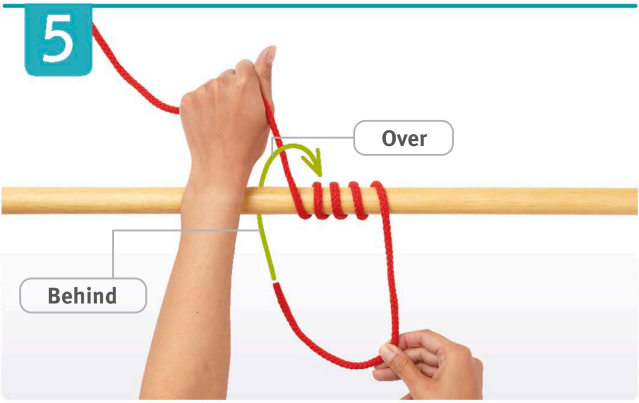
3

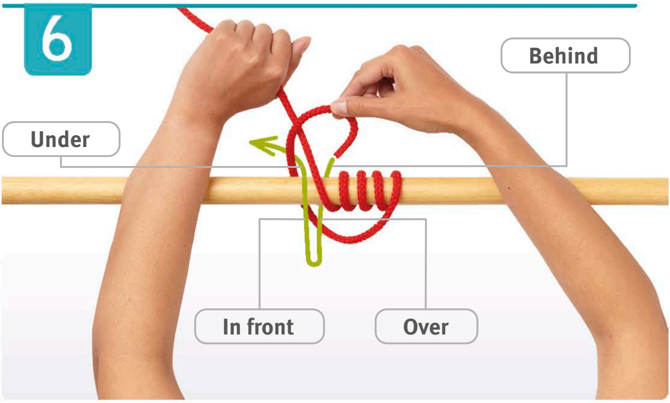

Behind
In front

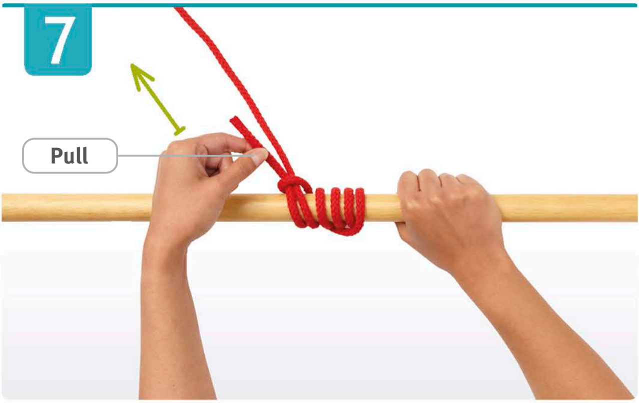
4

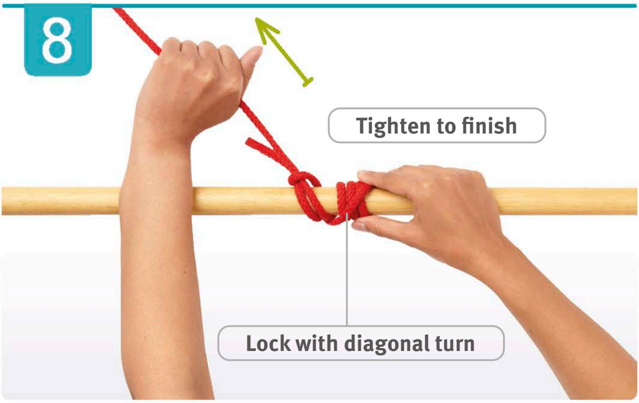

Behind
In front

5

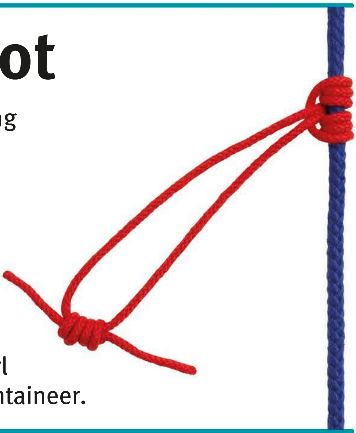

Over
Behind


6
Behind
Under
In front
Over


7
Pull

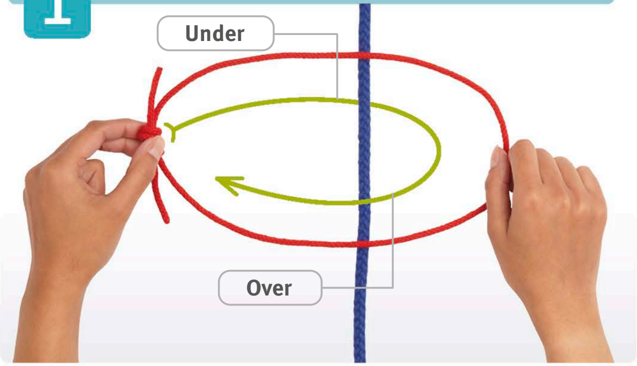

8
Tighten to finish
Lock with diagonal turn

Prusik Knot



- Used to attach a climbing sling to a main rope.
- Will slide up and down the main rope when strain is removed.
- Sling should be half the diameter of the main rope at most.
- Created in 1931 by Dr Carl Prusik, an Austrian mountaineer.

1 FORM A SLING WITH A DOUBLE FISHERMAN'S KNOT (»pp.160–63)



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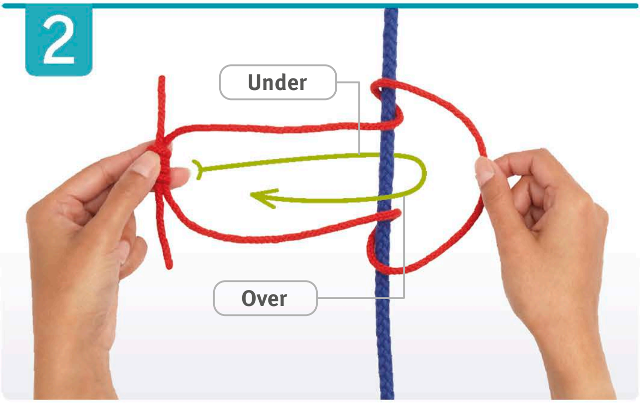
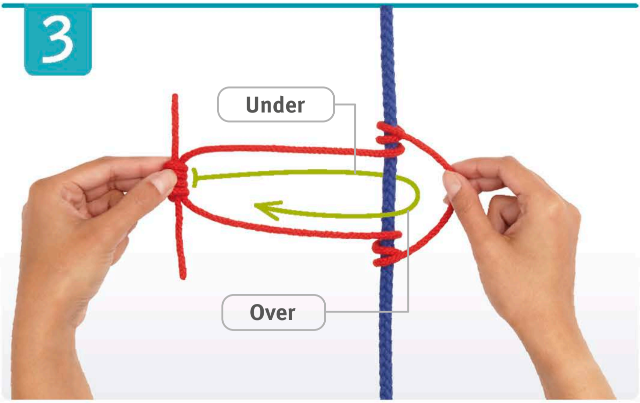
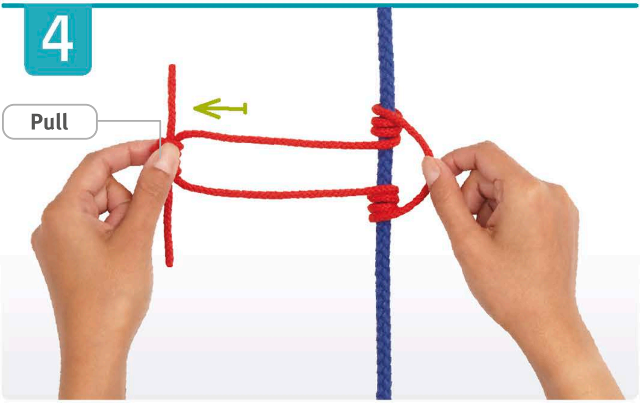


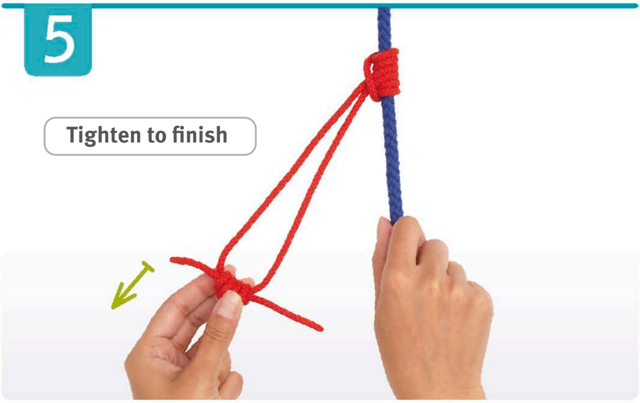
3



4

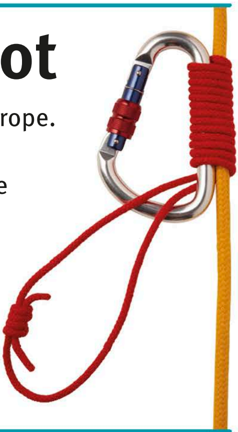


5


Tighten to finish

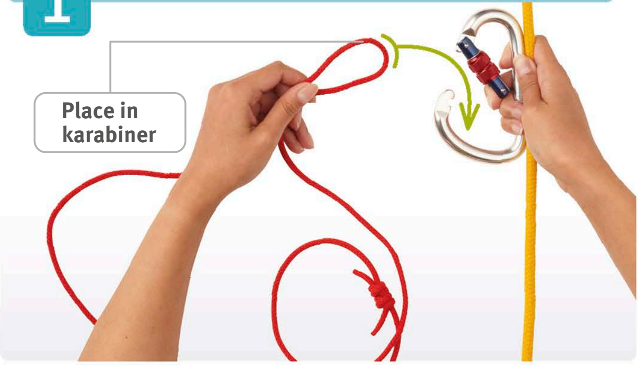
Bachmann Knot

- Used by climbers to ascend a fixed rope.
- Grips the rope tightly when loaded.
- Strain should only be applied to the sling, not the karabiner.
- Use the karabiner to move up and down the rope when there is no strain on the sling.

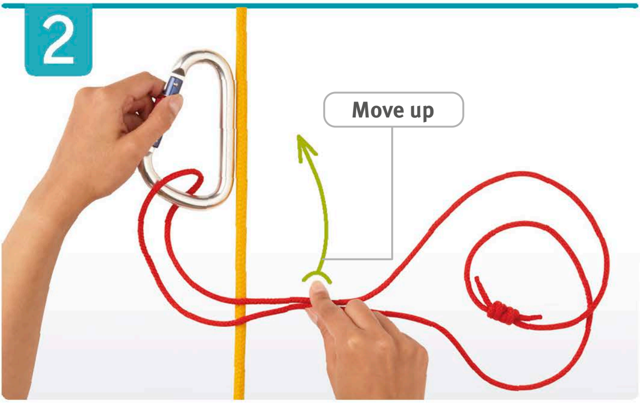


1

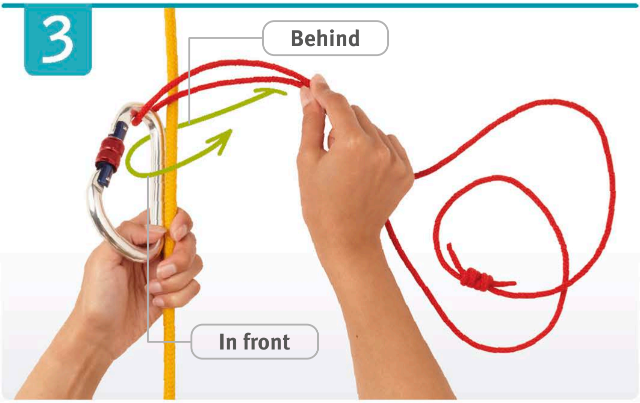
FORM A SLING WITH A DOUBLE FISHERMAN'S KNOT (»pp.160–63)



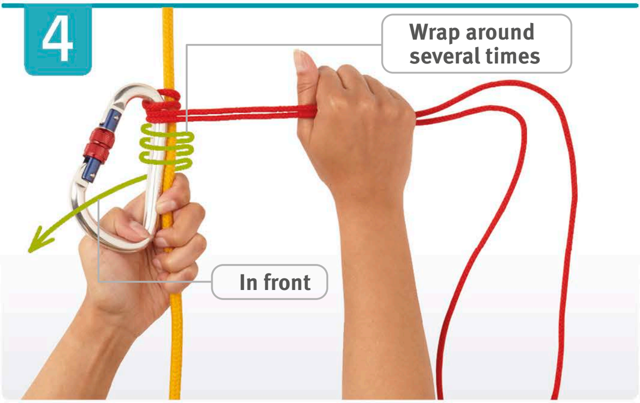
2



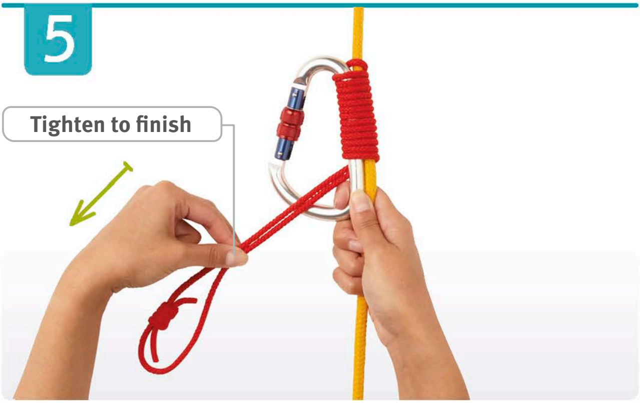
3


Behind
In front

4

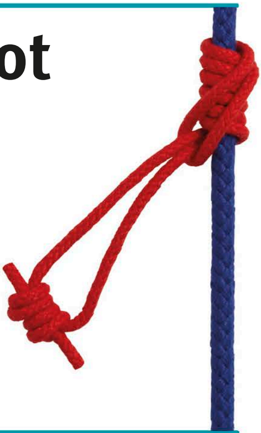

Wrap around several times
In front

5


Tighten to finish

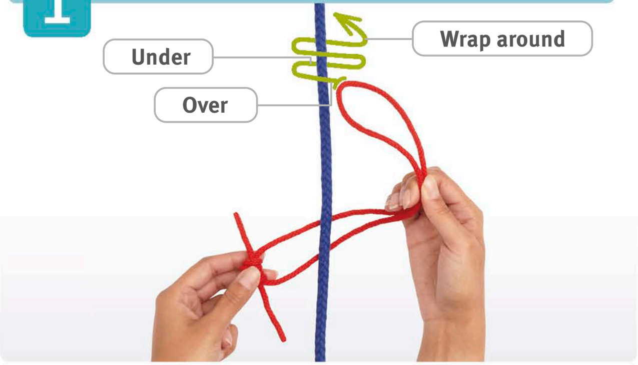
Klemheist Knot

- A variation of the Prusik Knot (*see pp.228–29*) that can be used for moving up or down a climbing rope.
- Soft tubular climbing tape can be used to form the sling.
- The rope used to form the sling should be at least half the diameter of the main rope.

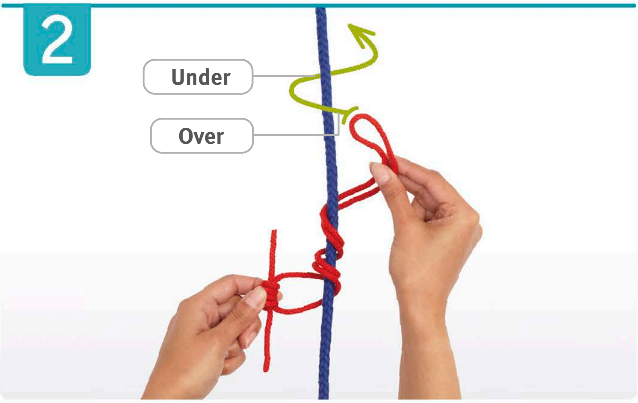


1

FORM A SLING WITH A DOUBLE FISHERMAN'S KNOT (»pp.160–63)


Wrap around
Under
Over

2



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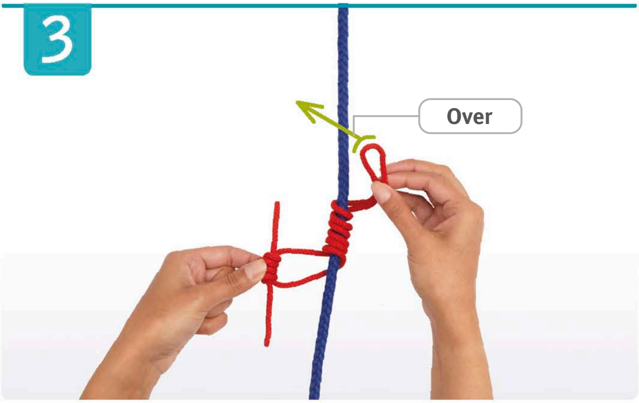
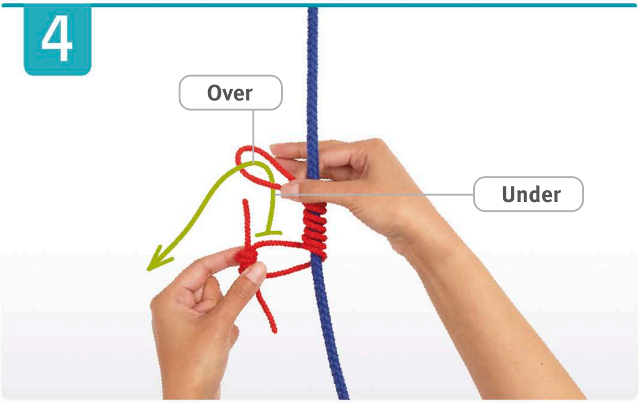


4



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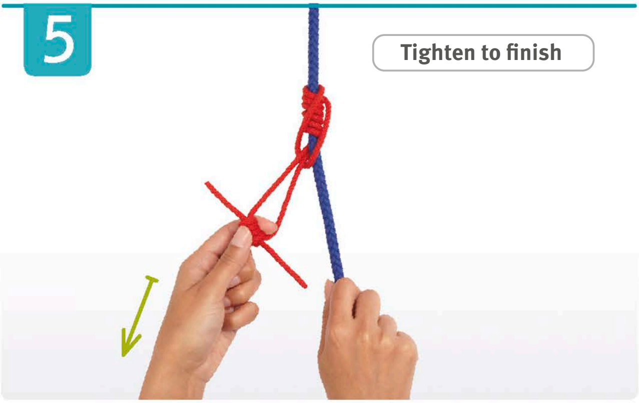
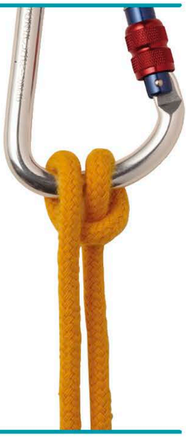
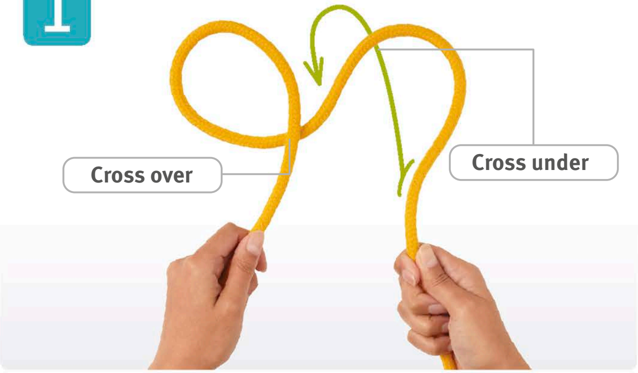

Tighten to finish

Italian Hitch

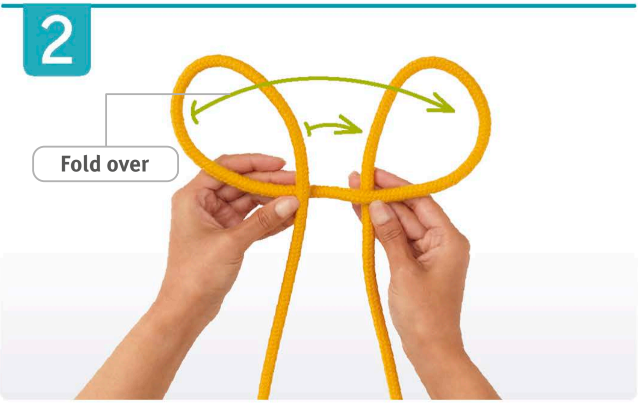
- A sliding hitch used in climbing and abseiling to control a descent.
- Pull on the loaded rope (rope that takes the strain) to cause the knot to slip.
- Pull on the braking rope to control the speed of the slip.
- The braking rope should not be confused with the loaded rope.



1


Cross under
Cross over

2



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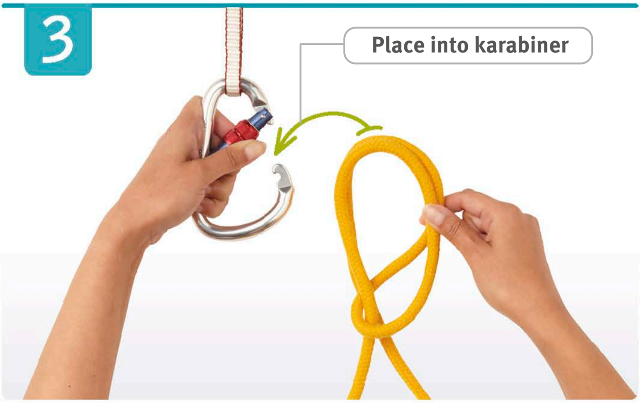
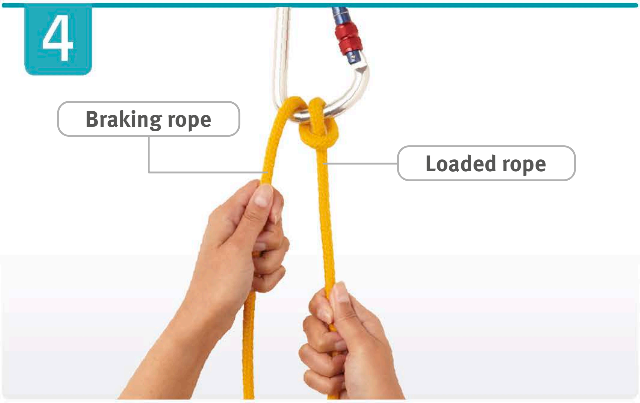
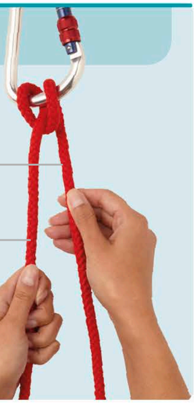

Place into karabiner

4


Braking rope
Loaded rope

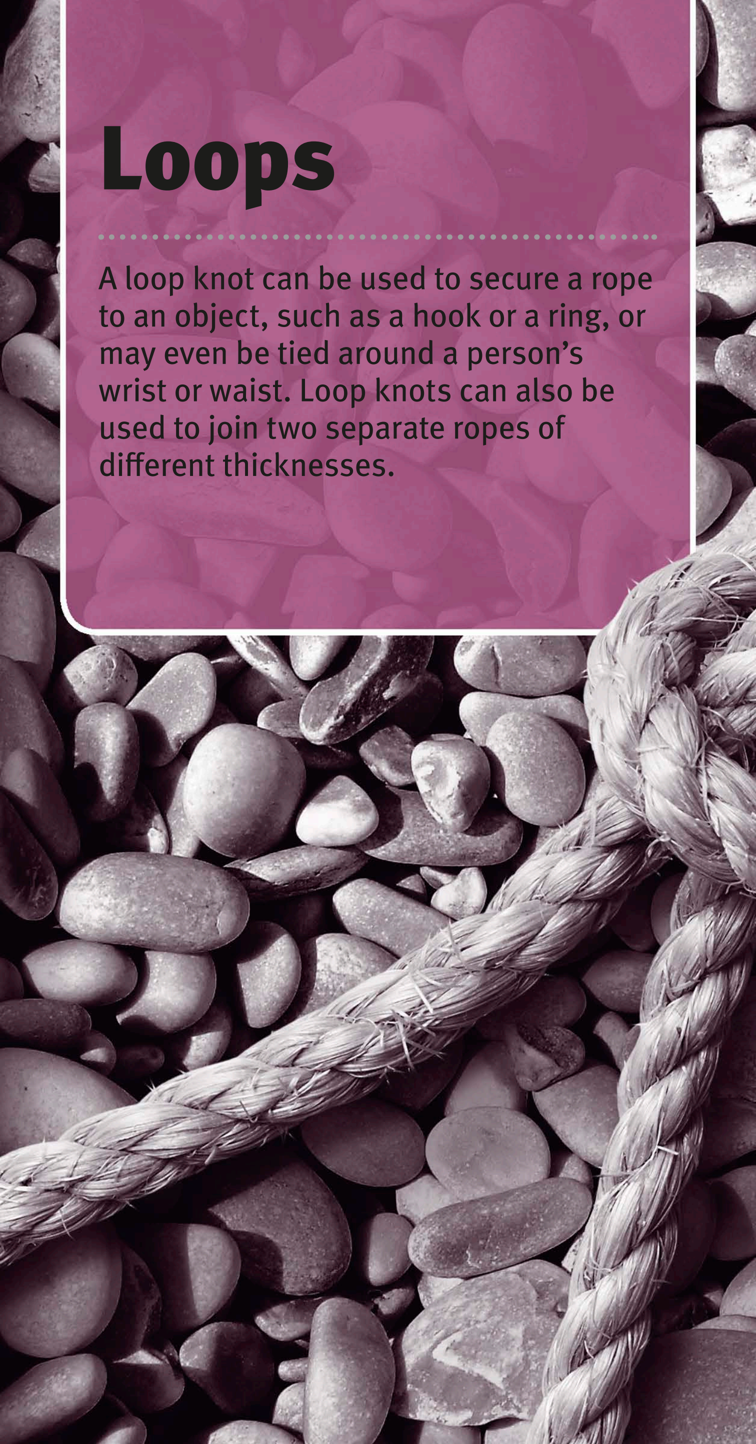
Reversed Italian Hitch

- In the Reversed Italian Hitch, the loaded rope and the braking rope are reversed.
- The braking rope becomes the loaded rope, and vice versa.


Braking rope
Loaded rope

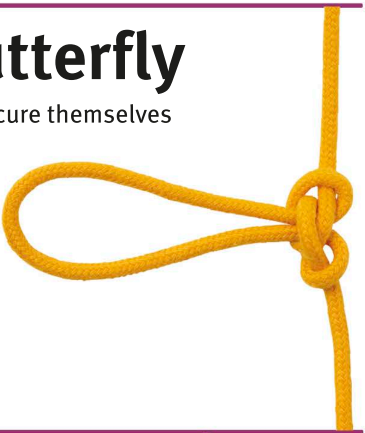
Loops

A loop knot can be used to secure a rope to an object, such as a hook or a ring, or may even be tied around a person's wrist or waist. Loop knots can also be used to join two separate ropes of different thicknesses.

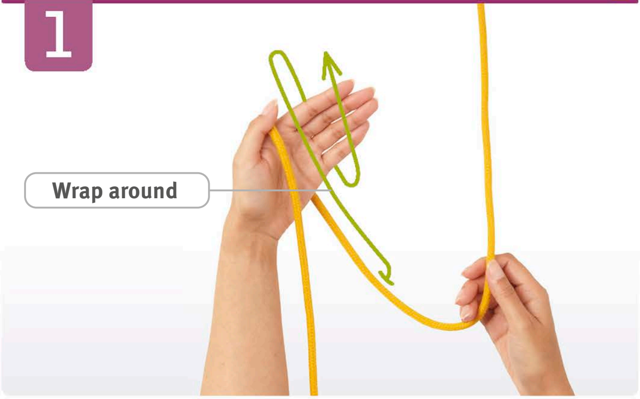


Alpine Butterfly

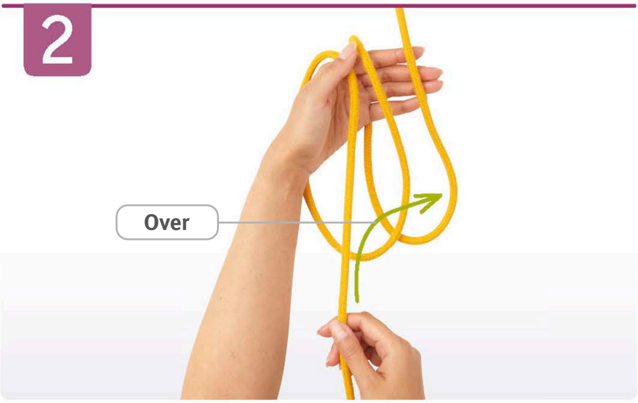
- Used by climbers to secure themselves to the middle of a rope.
- Will take strain in either direction.
- Can be tied quickly.



1


Wrap around

2



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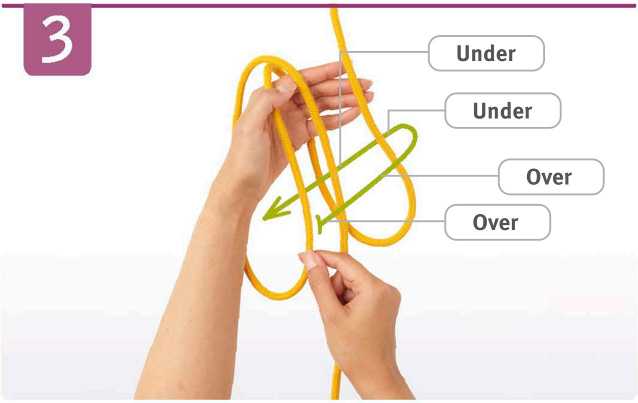
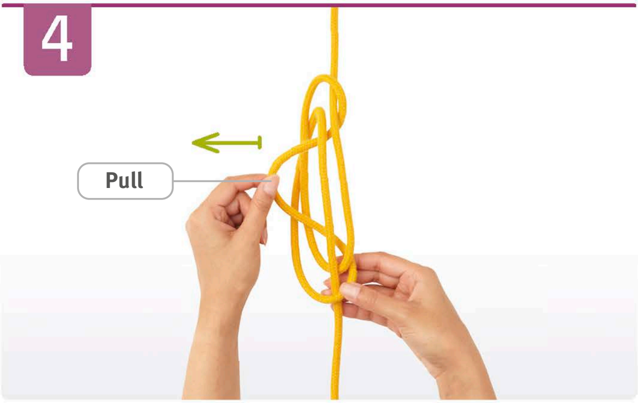
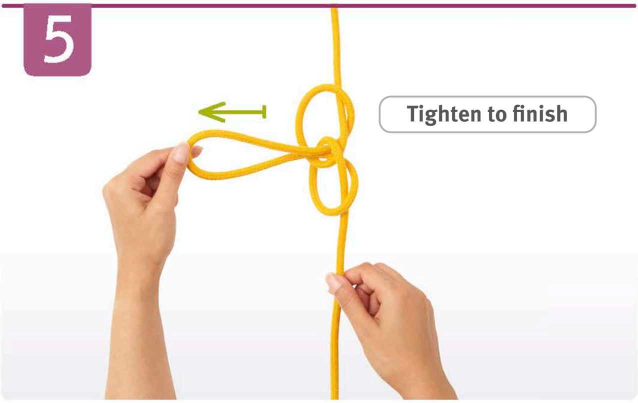

Under
Under
Over
Over

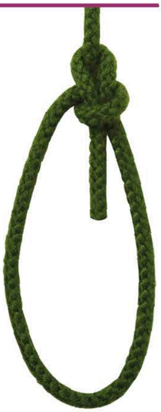
4



5

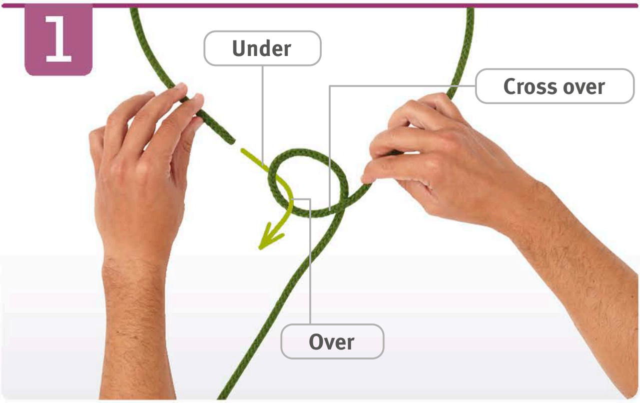

Tighten to finish

Bowline

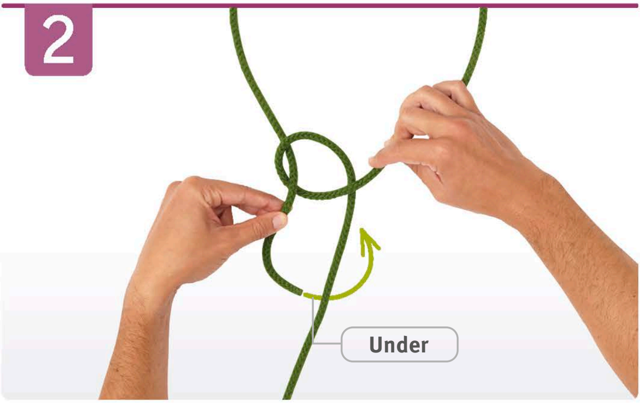


- A widely used, general-purpose loop knot.
- Easy to tie and untie.
- Ensure that the finished knot has a good tail.
- Can be tied in two ways (*see pp.242–44*) – use this method when the standing part is free.

1


Under
Cross over
Over

2



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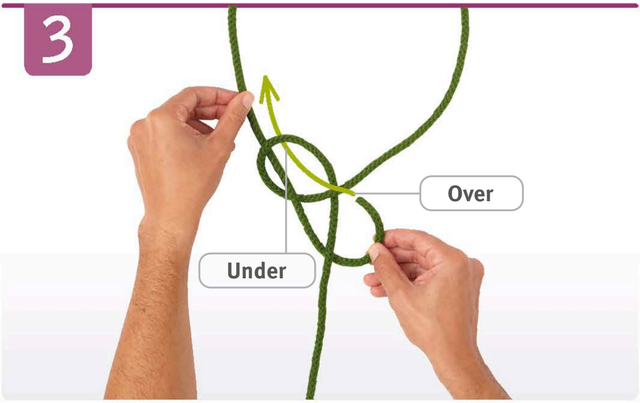

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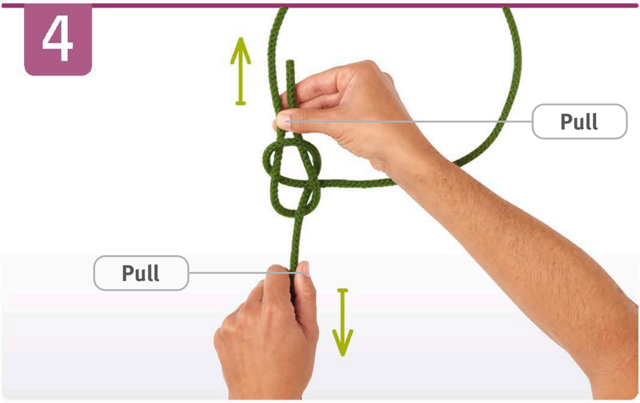

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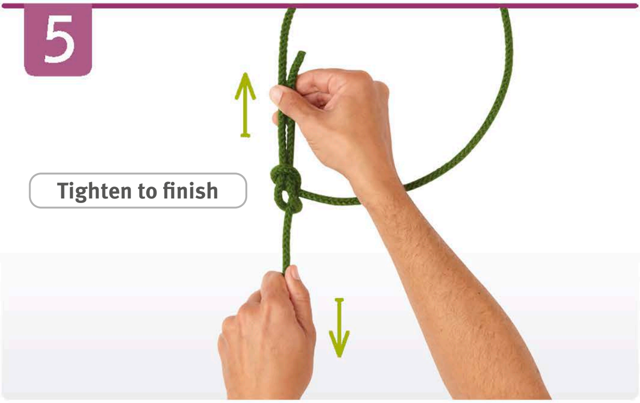
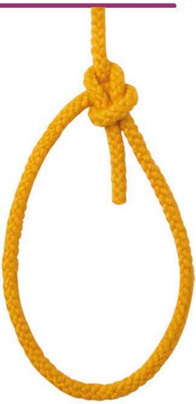
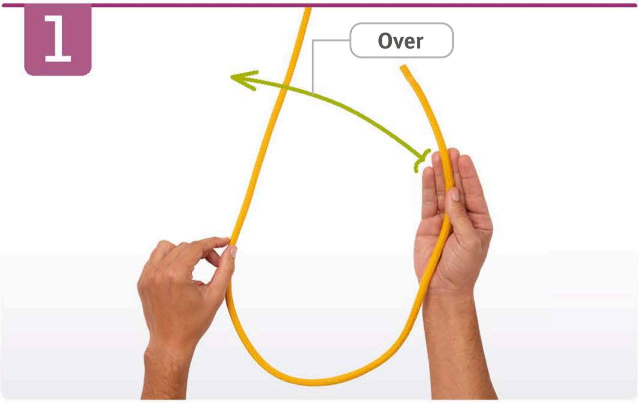

Tighten to finish

Bowline – Second Method



- Used to tie a loop around the waist for activities such as sailing and climbing.
- Ensure that the loop has a good tail (short end).
- Best method for tying a Bowline (*see pp.240–41*) if the standing end of the rope is fixed.

1



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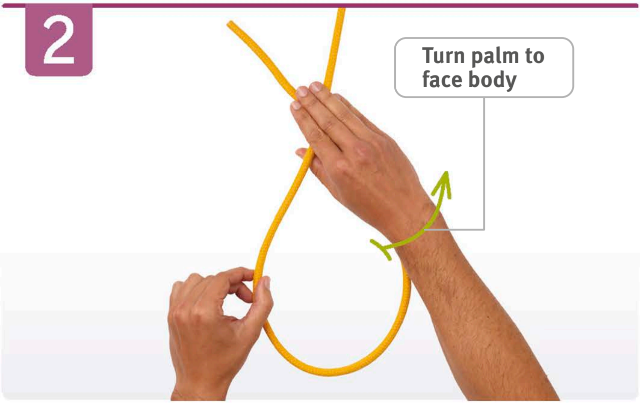
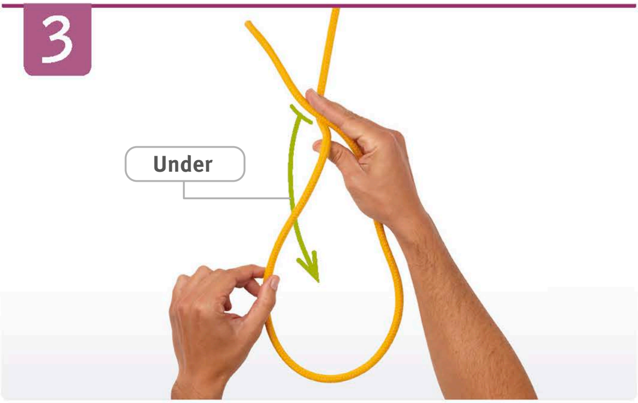

Turn palm to face body

3



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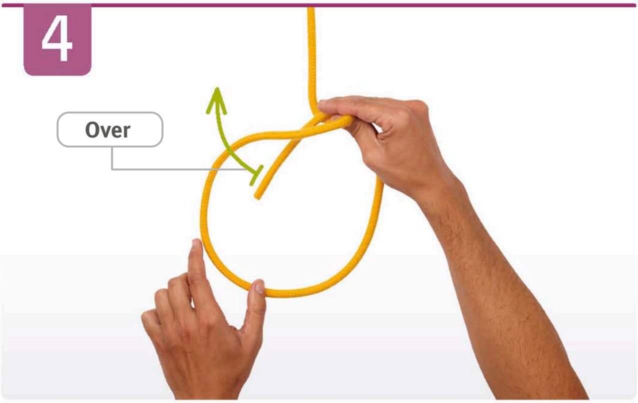

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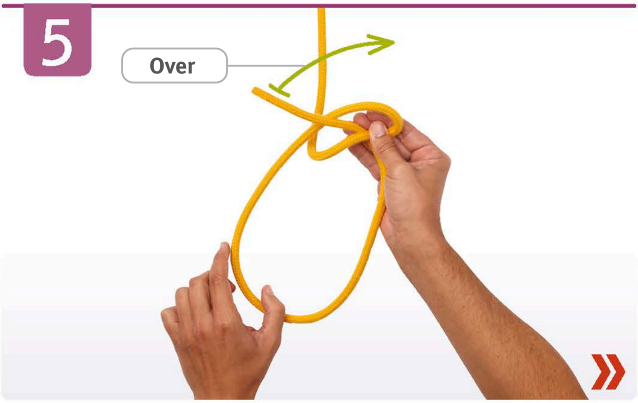

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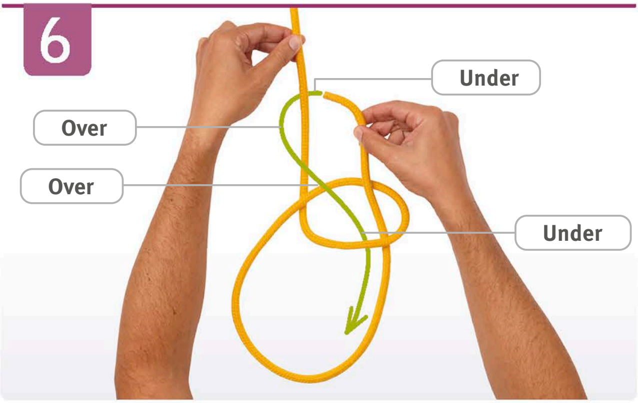
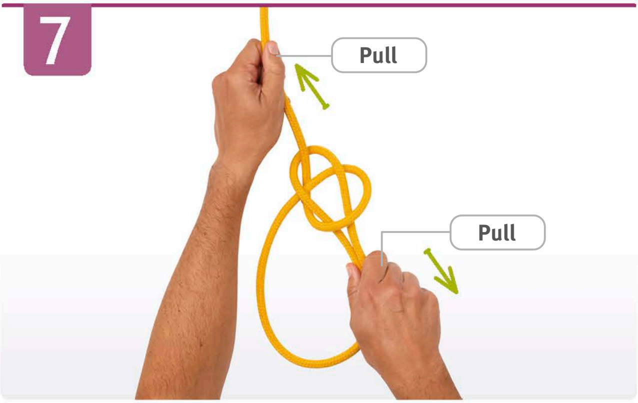
6


Under
Over
Over
Under

7



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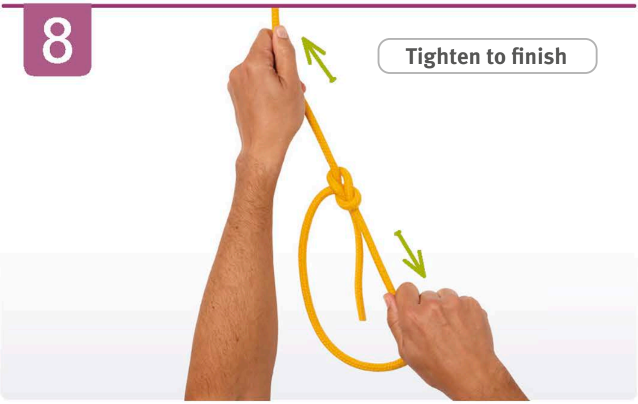
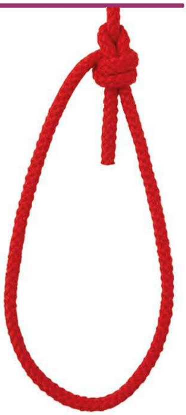
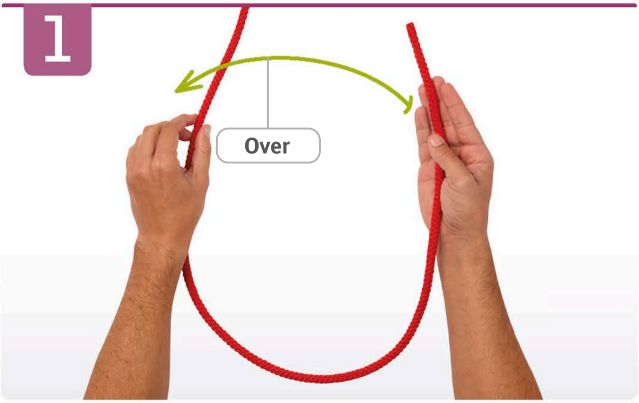

Tighten to finish

Bowline with Two Turns

- A more secure version of a Bowline (*see pp.240–43*) tied with an extra turn.
- Ensure the finished knot has a good tail (working end).



1



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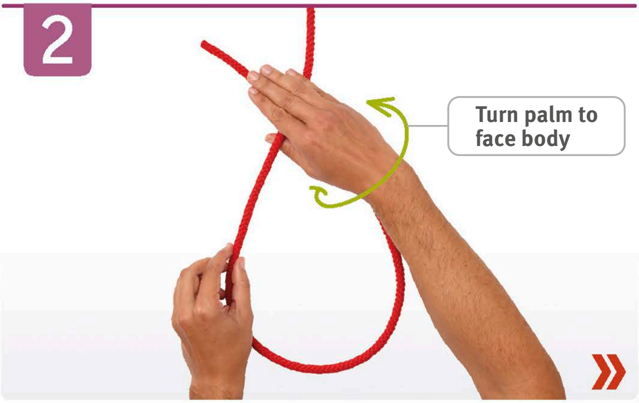
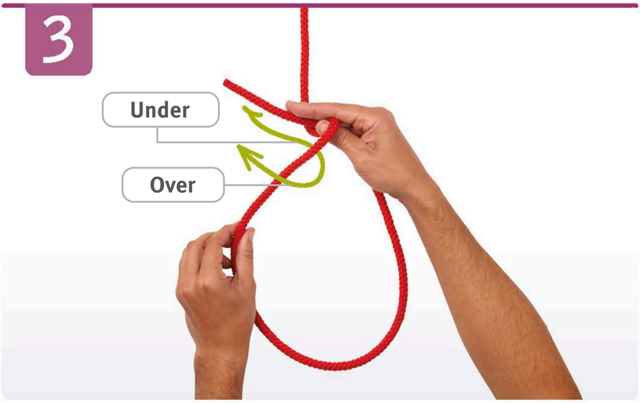

Turn palm to face body

»

3



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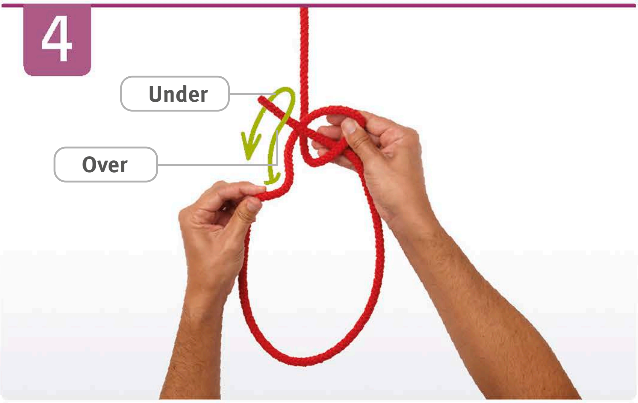

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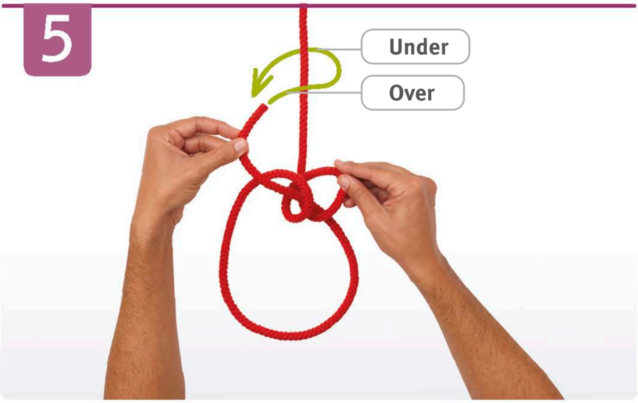

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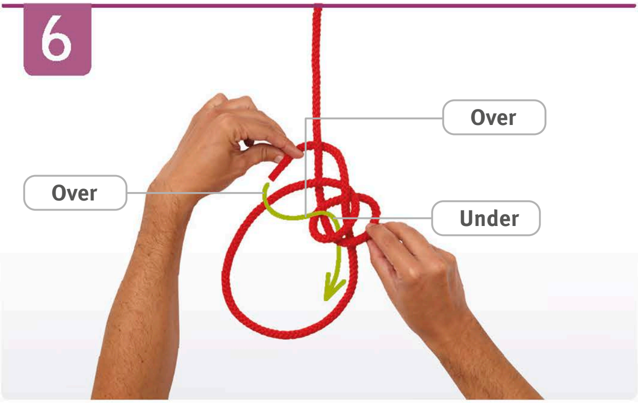
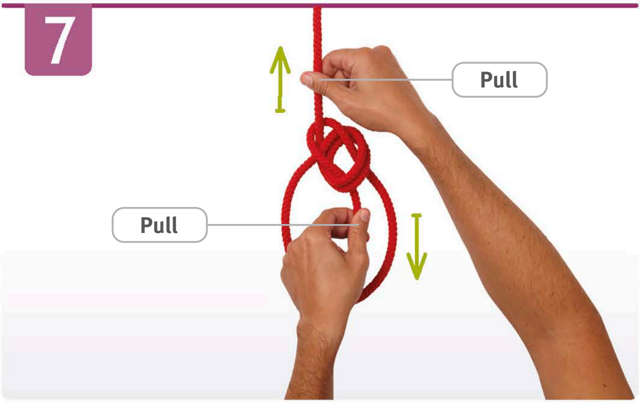

Over
Over
Under

7



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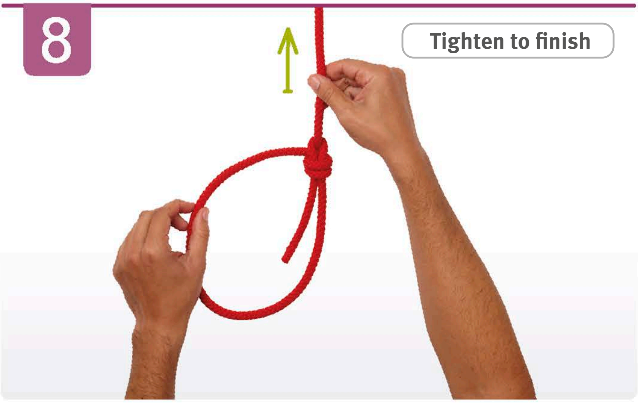
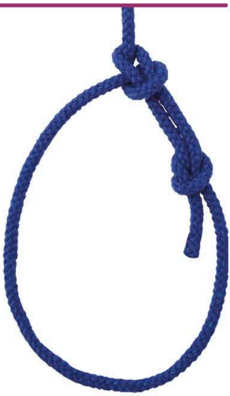
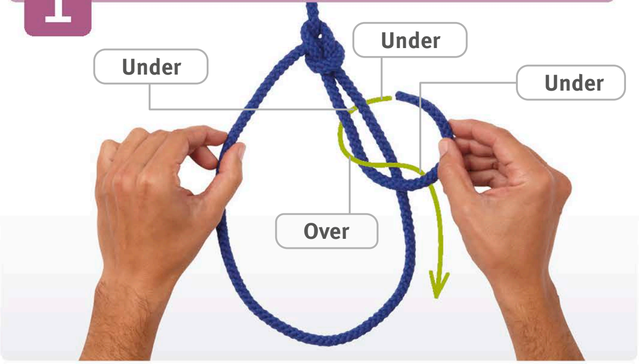

Tighten to finish

Bowline with Stopper

- A secure version of the Bowline (*see pp.240–43*) that is popular with climbers.
- Working end is tied around the loop using the Overhand Knot (*see pp.28–29*).



1 TIE A BOWLINE (»pp.240–43)


Under
Under
Under
Over

2

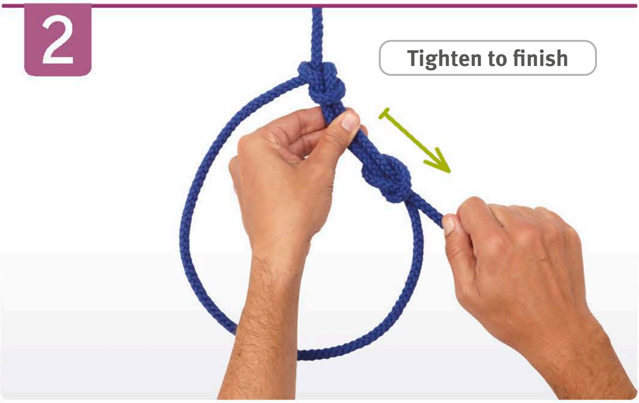
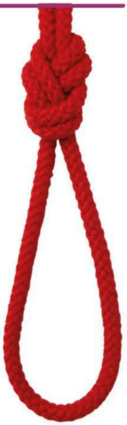
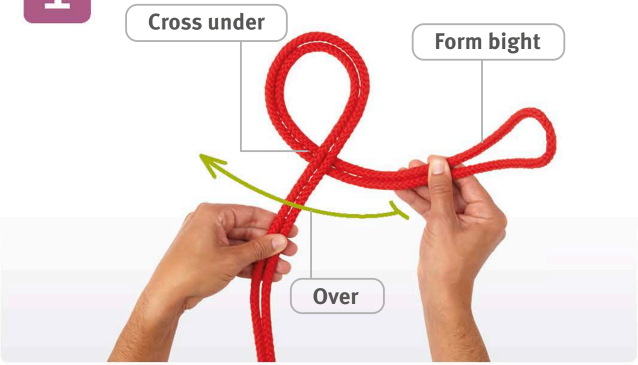

Tighten to finish

Figure-of-Eight Loop

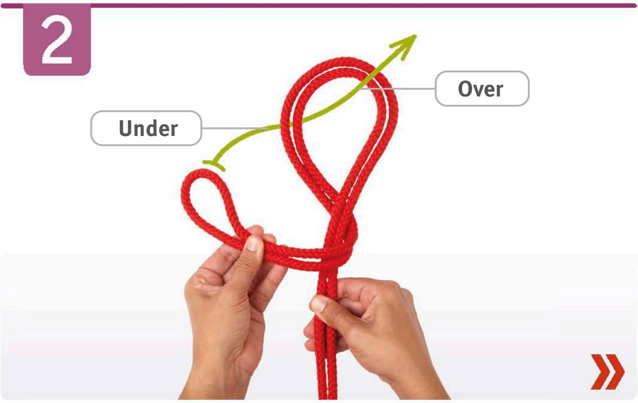


- A popular climber’s loop that can take a moderate amount of strain.
- Distinctive shape makes it easy to check if the knot is secure.
- Can be tied in fine nylon.
- Also known as the Double Figure-of-Eight Knot.

1

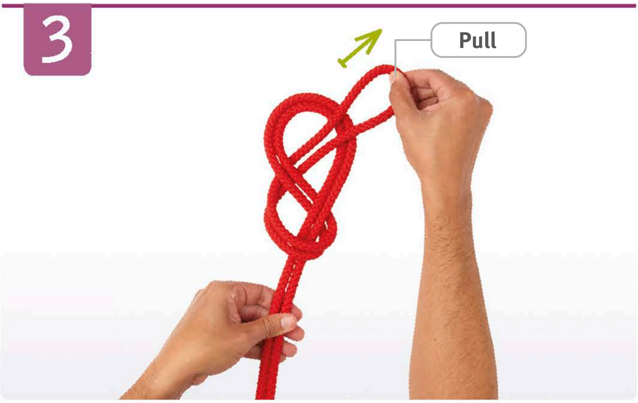

Cross under
Form bight
Over

2



»

3



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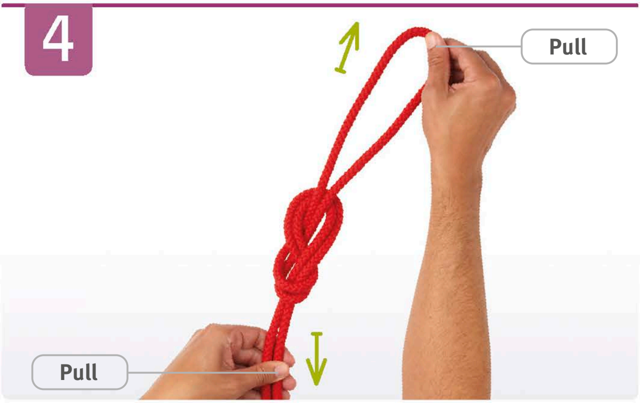

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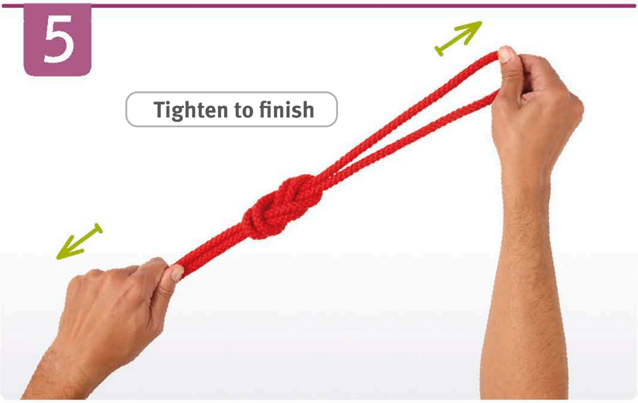
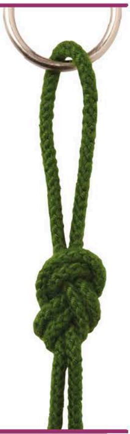
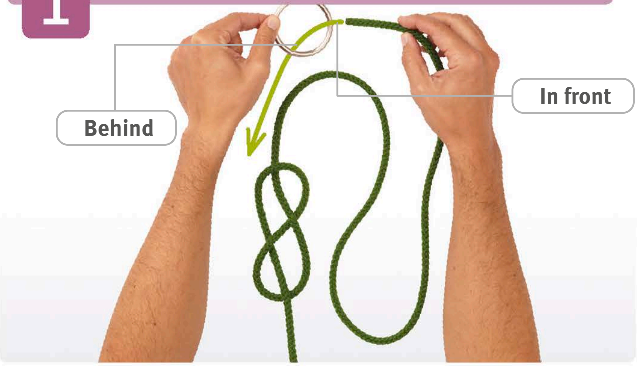

Tighten to finish

Threaded Figure-of-Eight Loop

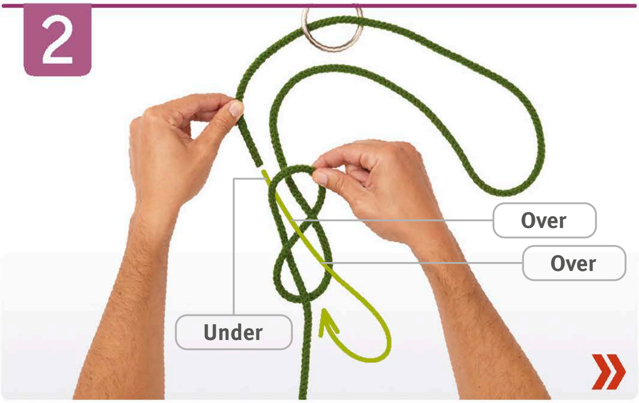


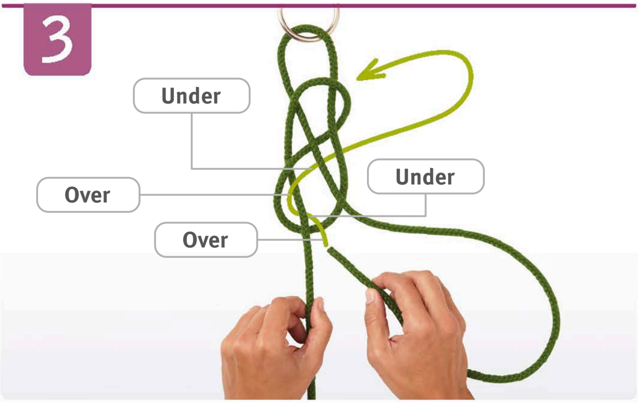
- A Figure-of-Eight Loop (*see pp.249–50*) that can be threaded through a ring.
- Used for attaching climbing rope to a harness.
- The finished knot should be neat and snug.
- Not as easy to untie as the Bowline (*see pp.240–41*).

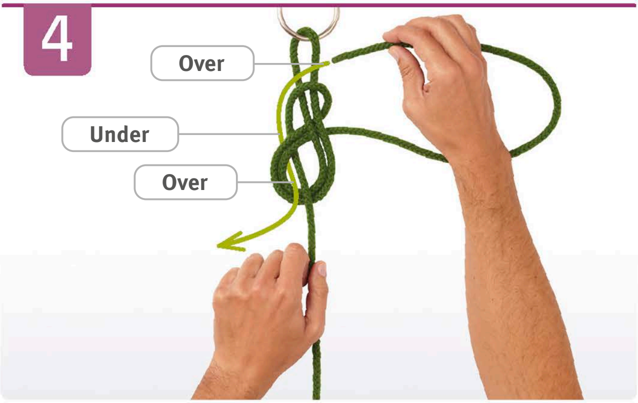
1 TIE A FIGURE OF EIGHT (»pp.38–39)

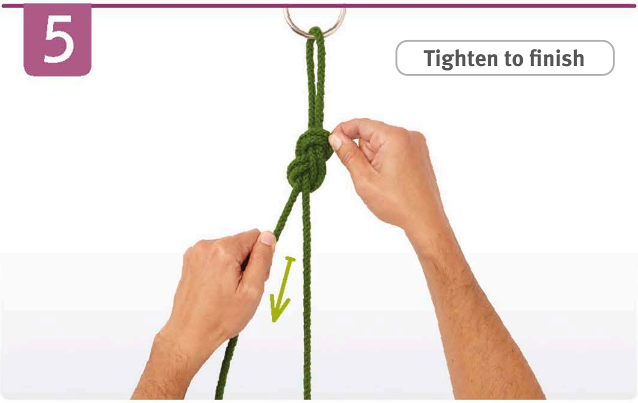

Behind
In front

2


Over
Over
Under

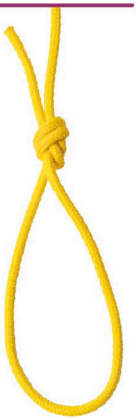

3
Under
Over
Under
Over


4
Over
Under
Over

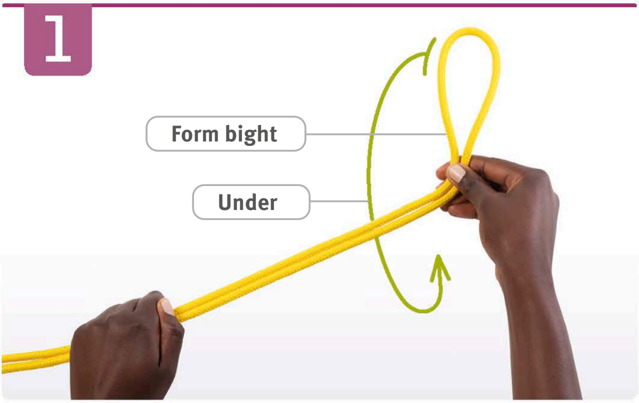

5
Tighten to finish

Overhand Loop

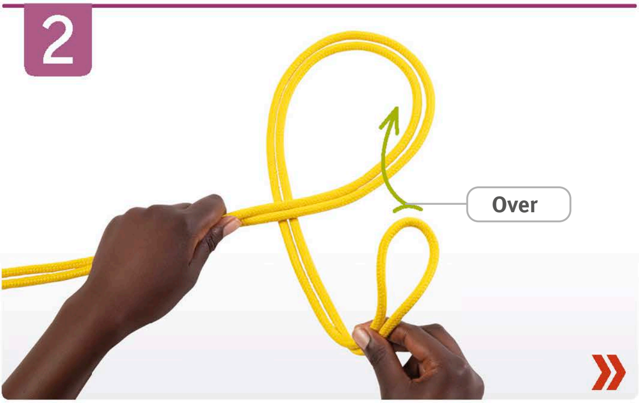
- A simple method for creating a fixed loop.
- Made from an Overhand Knot (*see pp.28–29*) tied in the bight.
- Difficult to untie.



1

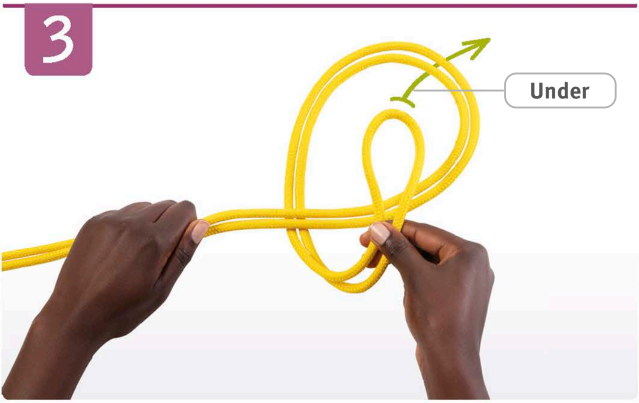

Form bight
Under

2



»

3



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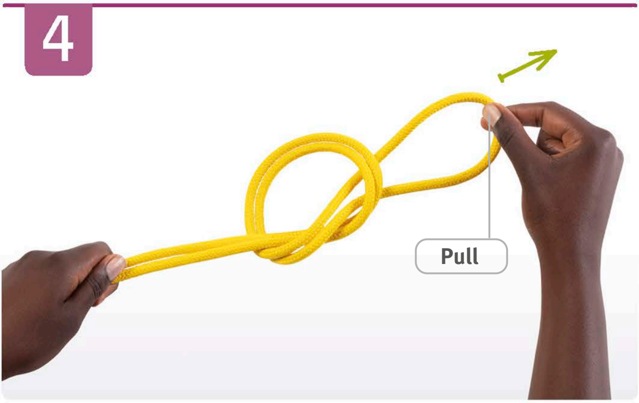

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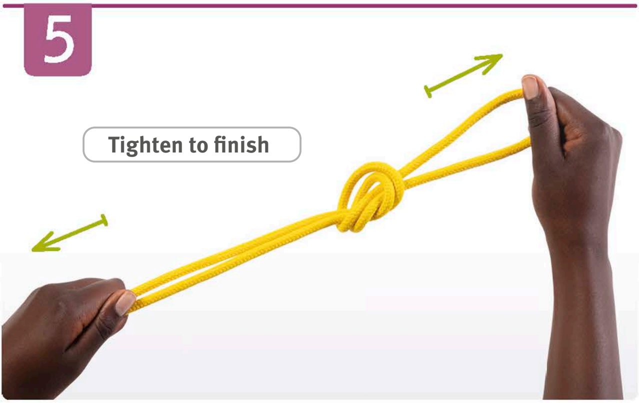
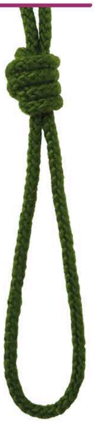
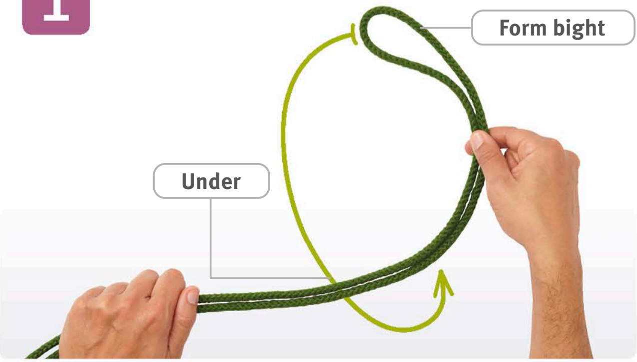

Tighten to finish

Double Overhand Loop

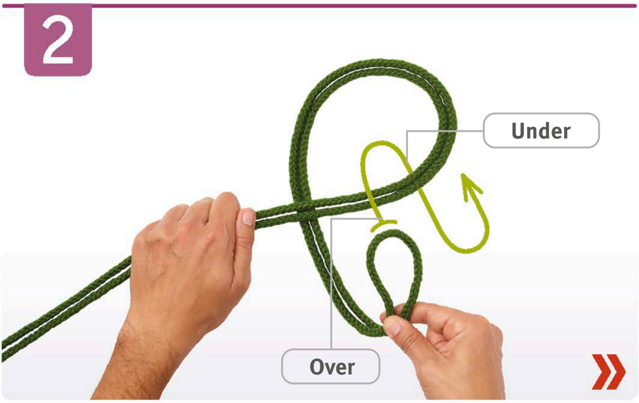


- A loop knot suitable for all types of thin ropes and cords, such as fishing line.
- Tied using the same method as the Double Overhand Knot (*see pp.32–33*), but with a doubled length of rope.
- Can be difficult to untie.

1


Form bight
Under

2



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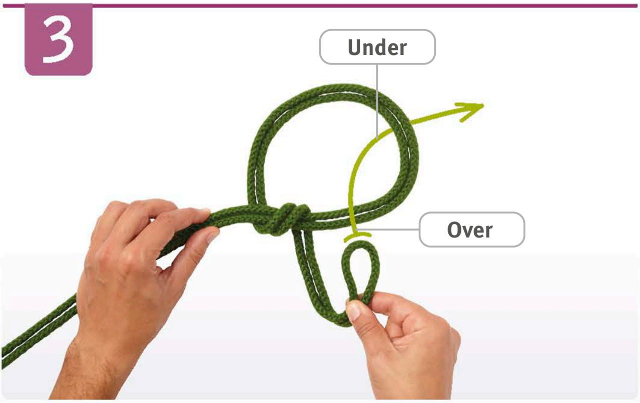

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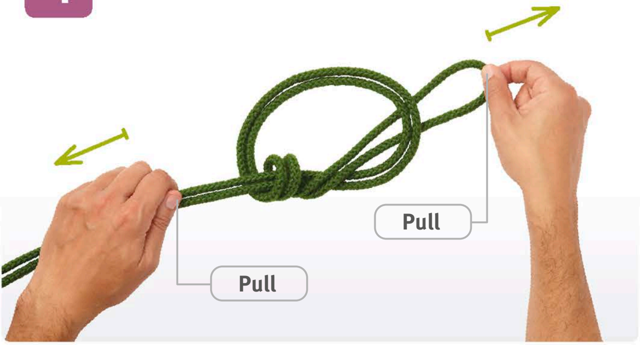

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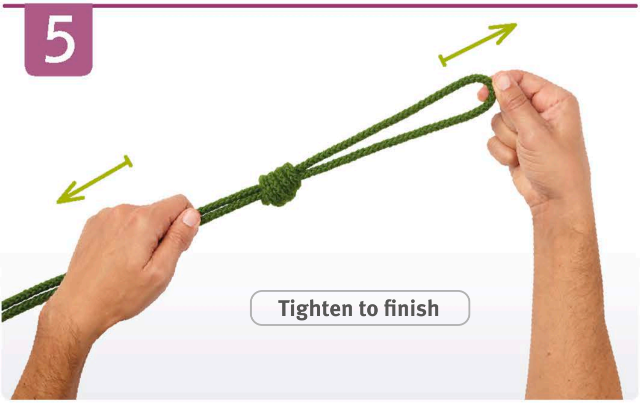
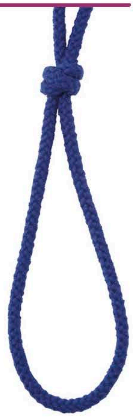

Tighten to finish

Double Overhand Sliding Loop

- Good for attaching a fishing line to a hook or a cord to a pair of spectacles.
- Work the knot into a neat shape to ensure it slides easily.



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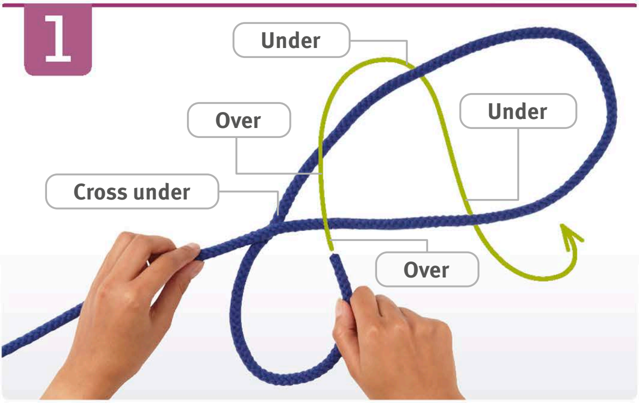
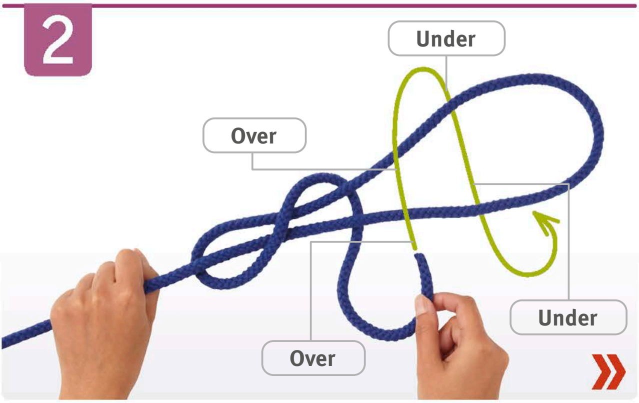
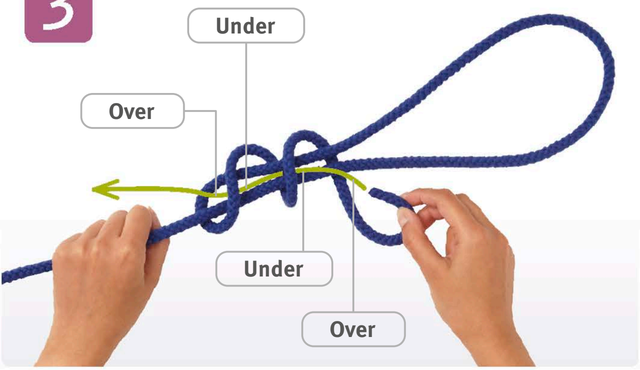

Under
Over
Under
Cross under
Over

2

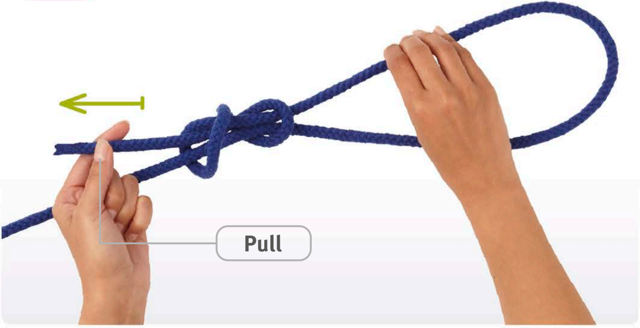

Under
Over
Under
Over

»

3


Under
Over
Under
Over

4



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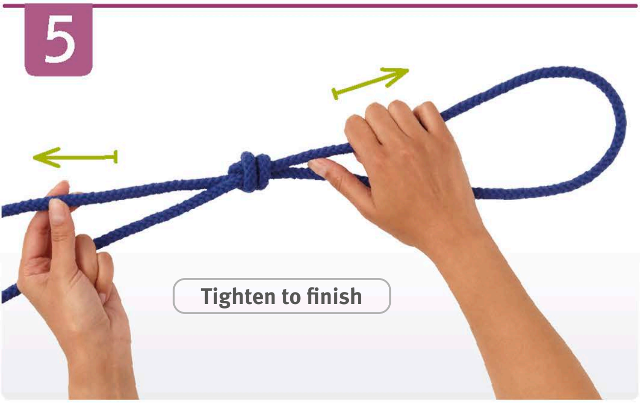
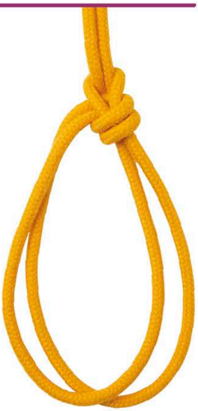
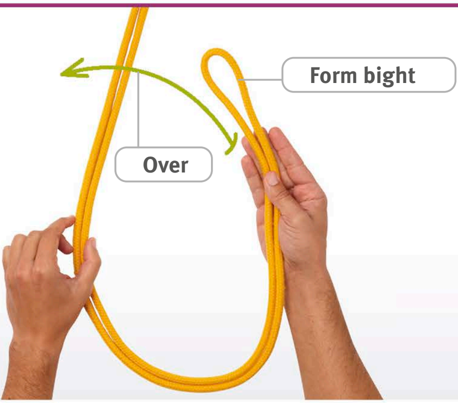

Tighten to finish

Bowline on the Bight

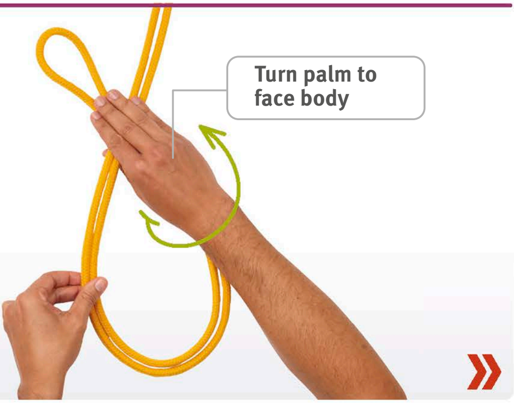


- A secure, double loop knot that can take strain.
- Each of the two fixed loops can be used for separate functions.
- Quick to tie and easy to untie.
- Can be tied in the middle of the rope.

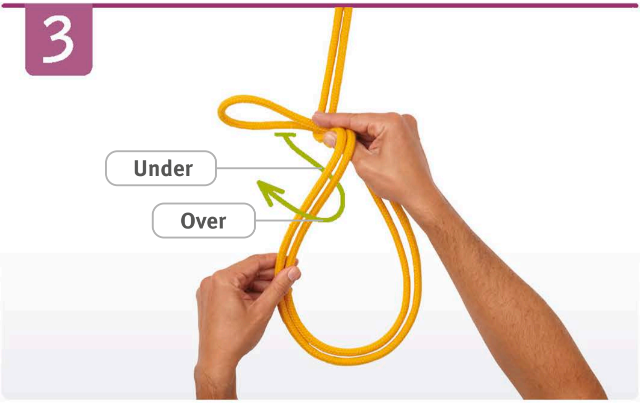
1


Form bight
Over

2


Turn palm to face body

3



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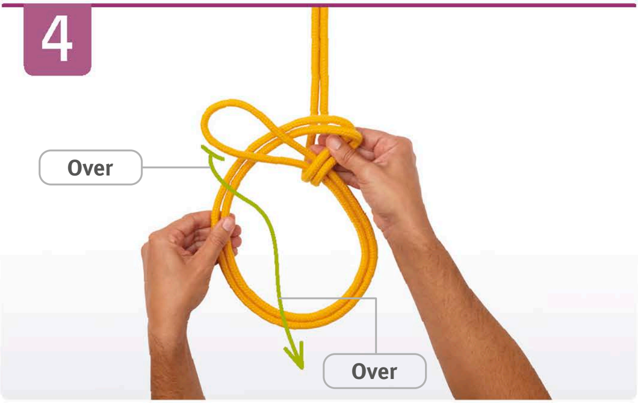

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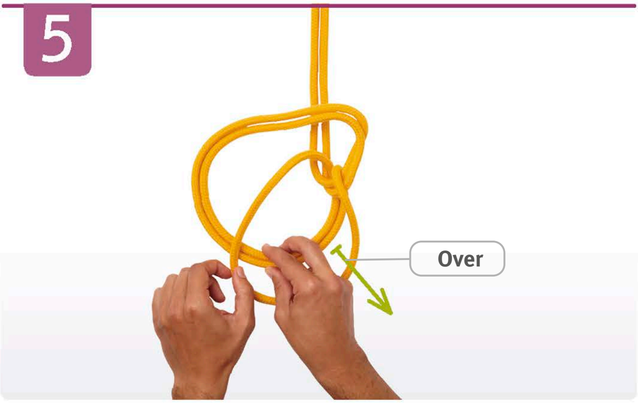

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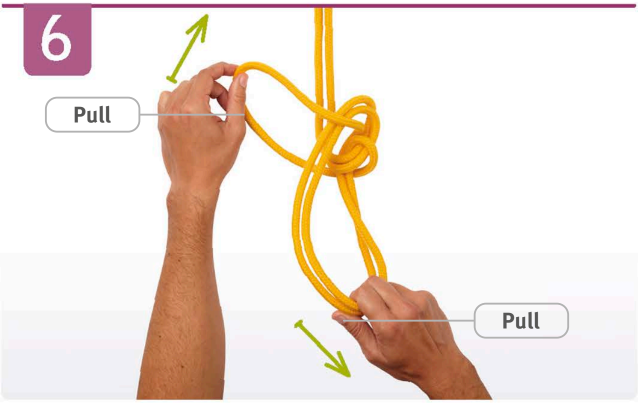
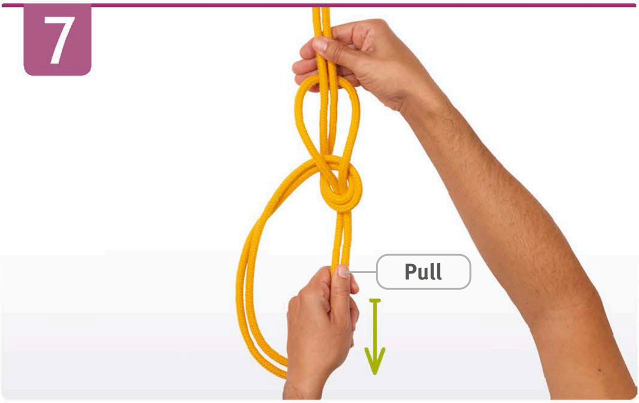


Pull

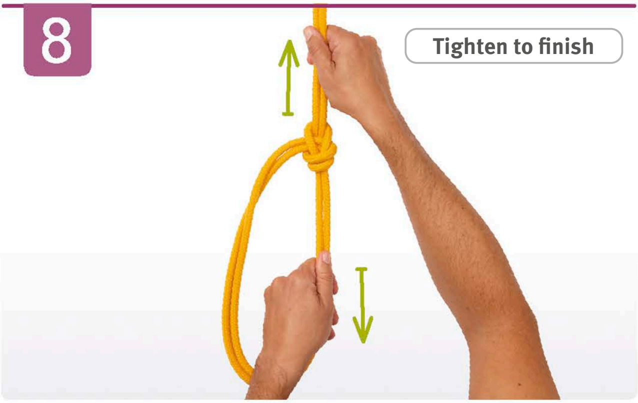
Pull

7



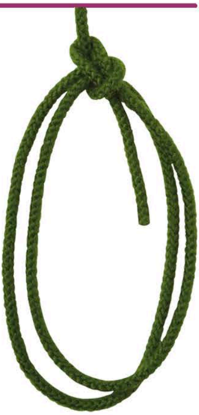
Pull

8



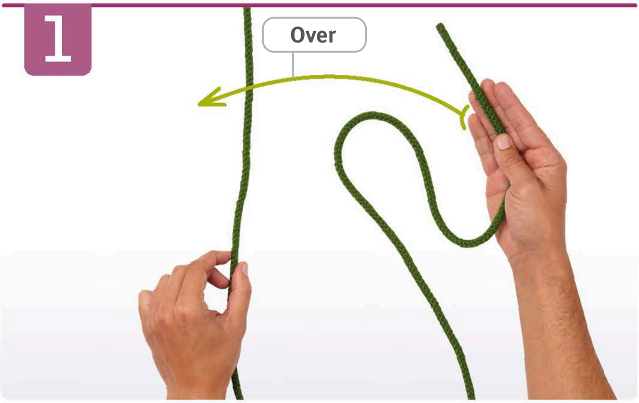
Tighten to finish

Portuguese Bowline



- Used to tie two adjustable loops quickly.
- Equal strain must be placed on both loops to prevent them from changing size while in use.

1



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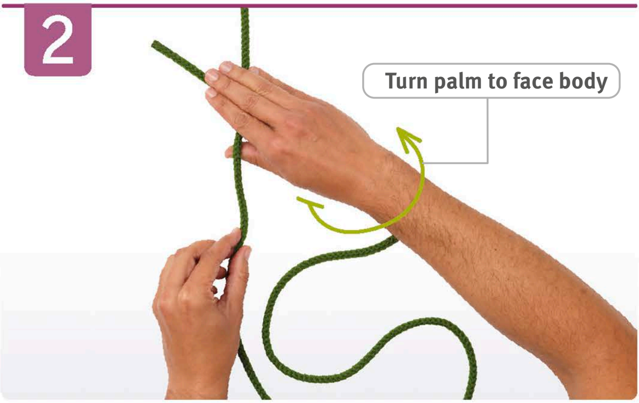
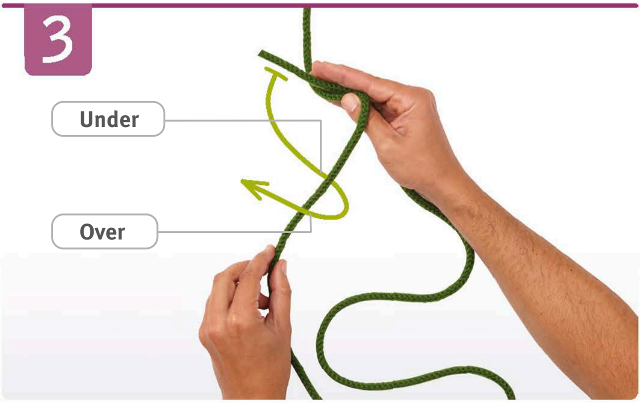

Turn palm to face body

3



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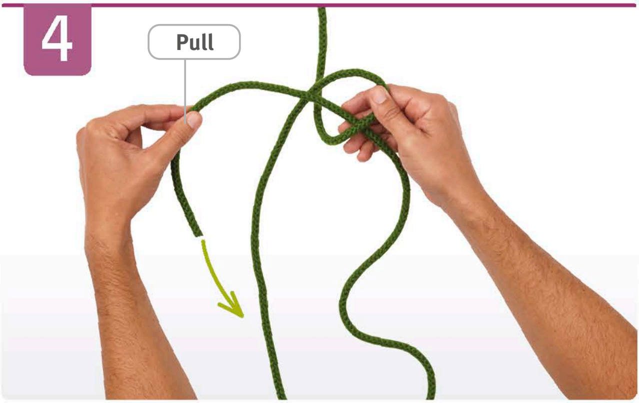

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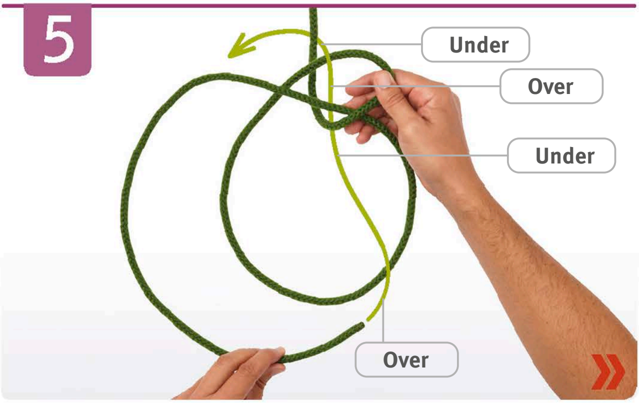
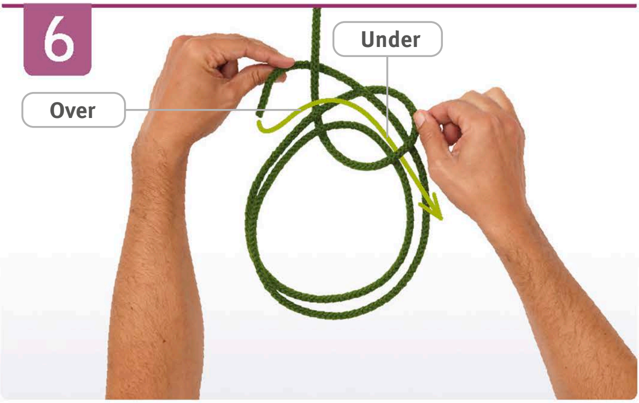

Under
Over
Under
Over

6



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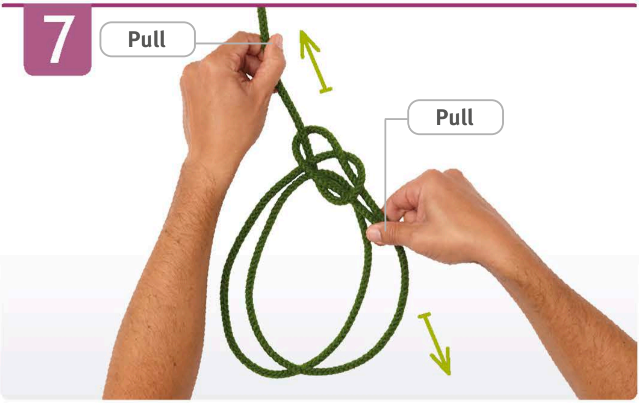

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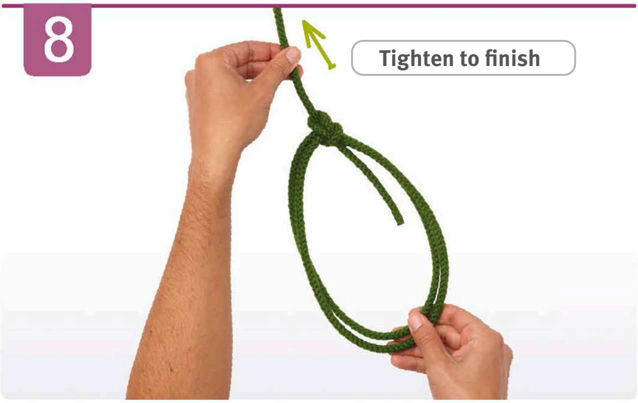
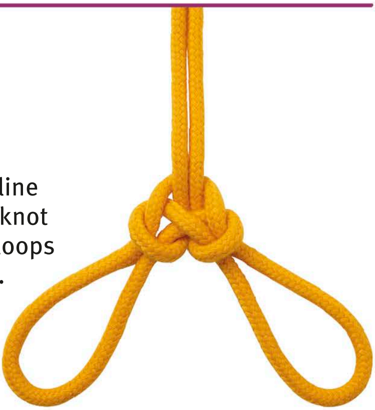
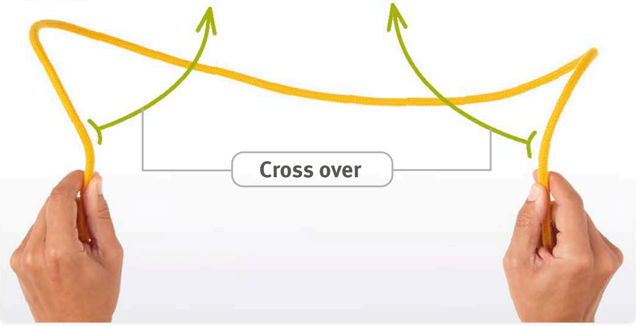

Tighten to finish

Spanish Bowline



- A variation of the Bowline (*see pp.240–43*), this knot forms two adjustable loops that lock into position.
- Can be tied in the middle of the rope.
- Place equal strain on both loops.

1



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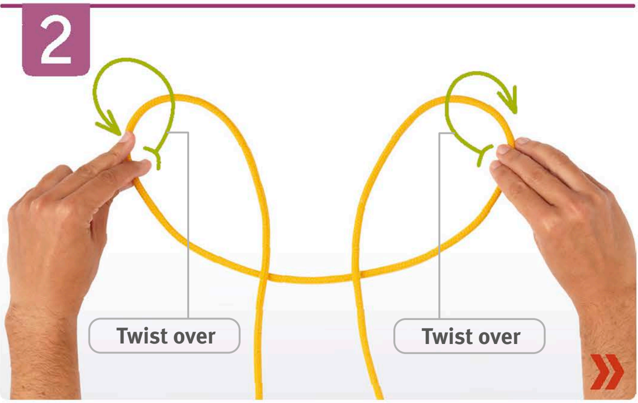
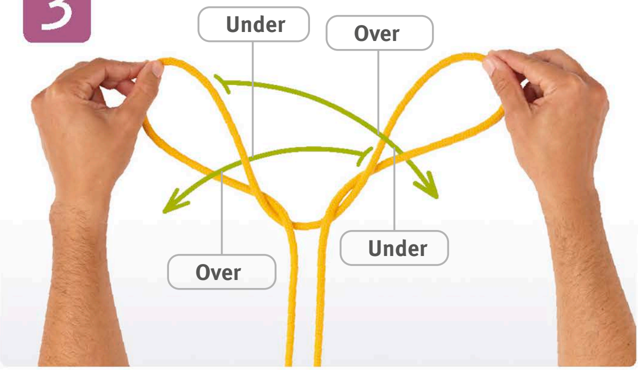
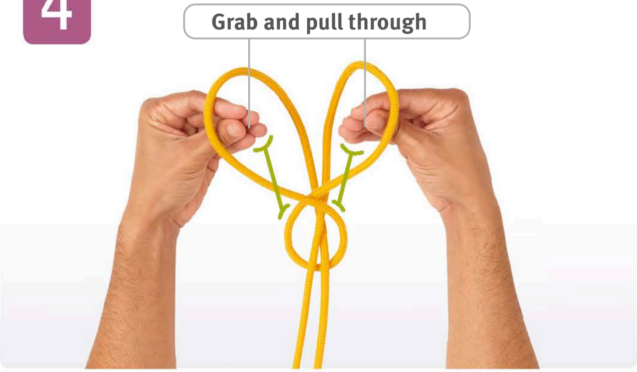

Twist over
Twist over
»

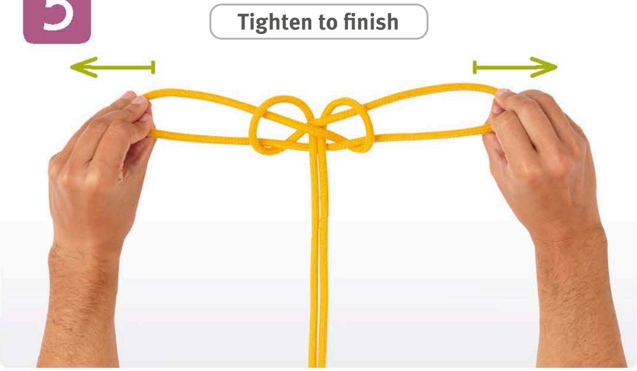
3


Under
Over
Over
Under

4

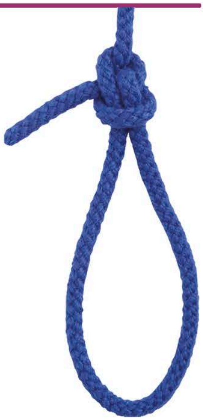

Grab and pull through

5


Tighten to finish

Angler's Loop

- Ideal for making a fixed loop in thin lines and ropes.
- Also works well with elasticated cord (shock cord).
- Quick to tie.
- Not suitable for thick ropes as it can be difficult to untie.



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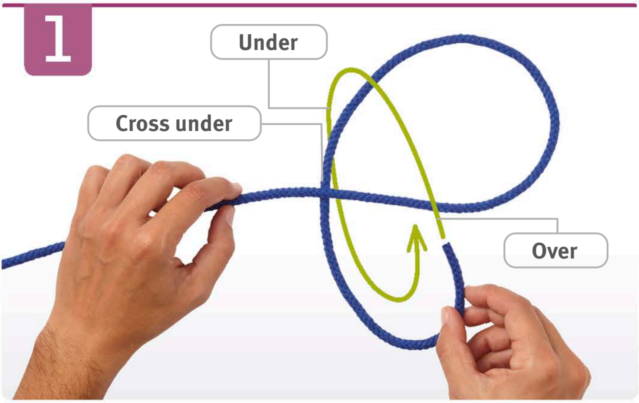
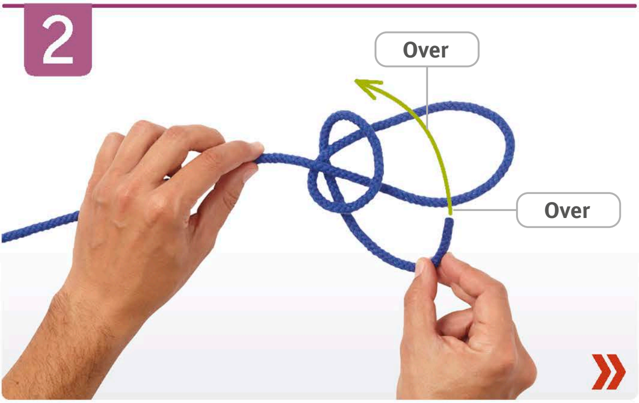
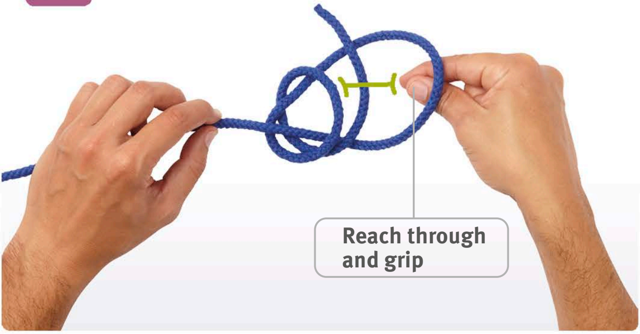

Under
Cross under
Over

2

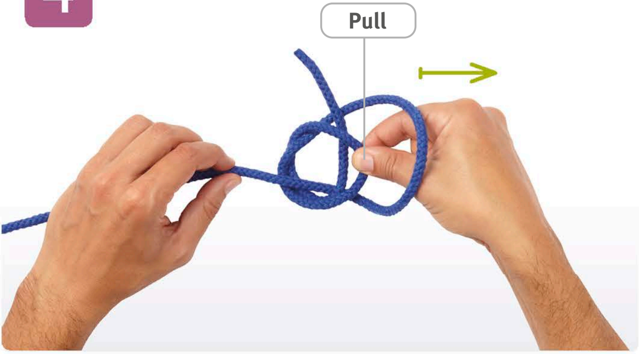


»

3


Reach through and grip

4



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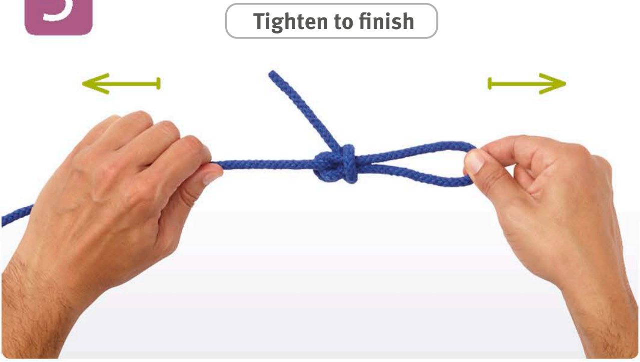
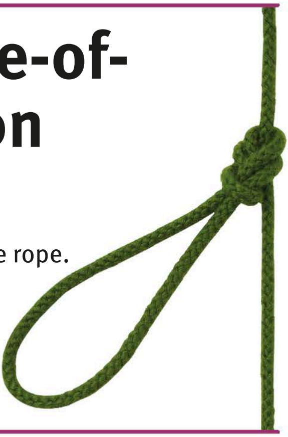

Tighten to finish

Single Figure-of-Eight Loop on the Bight

- Can be tied in the middle of the rope.
- Quick to tie and reasonably easy to untie.
- Creates a loop that can only be pulled in one direction.



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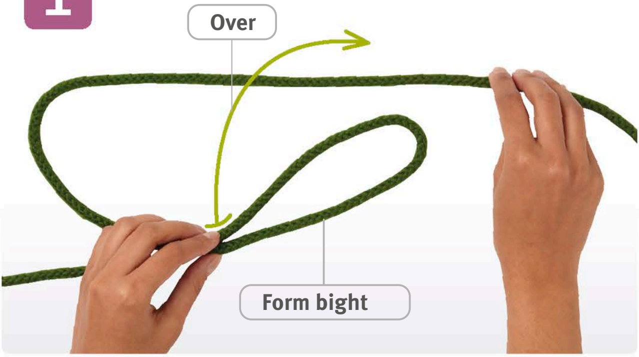
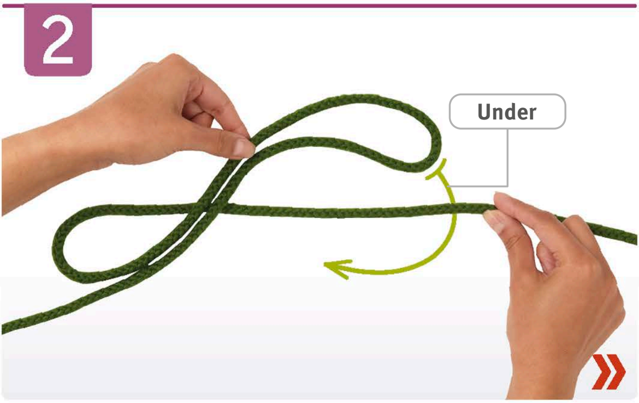

Over
Form bight

2



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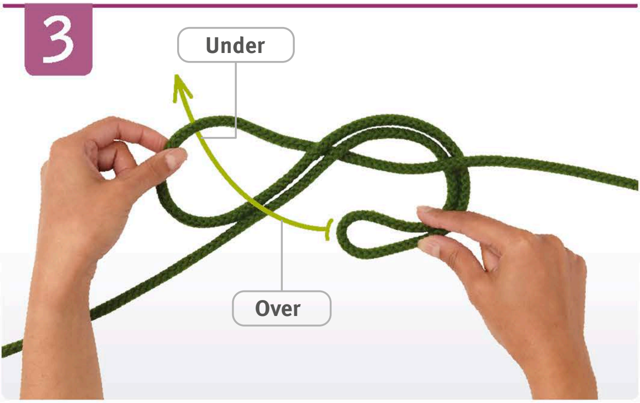

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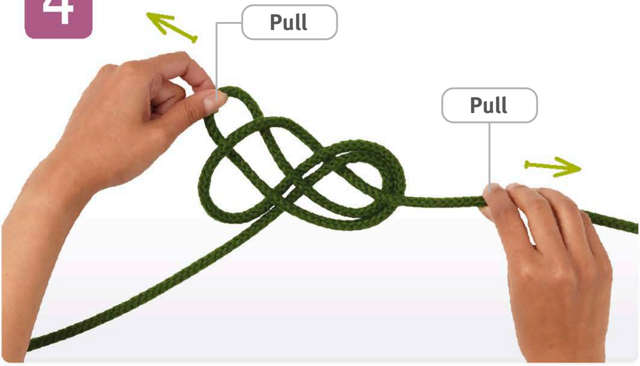

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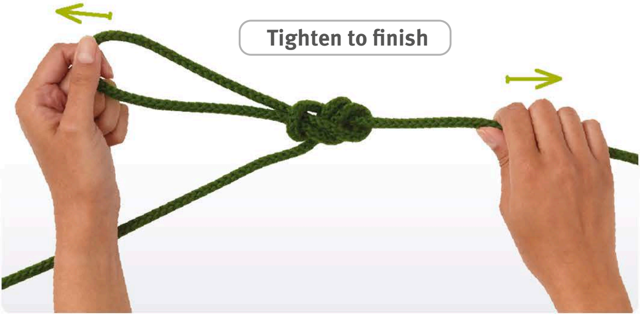
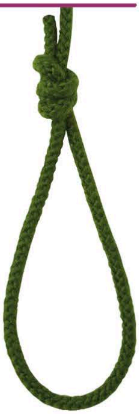
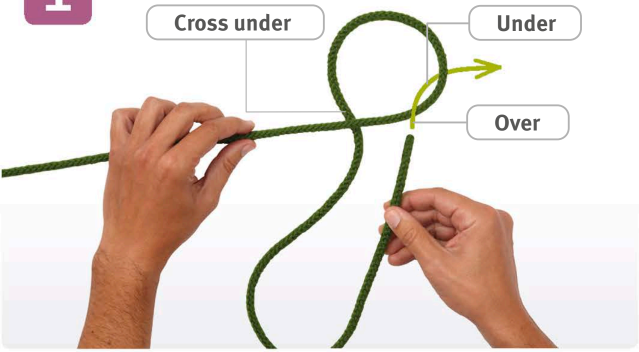

Tighten to finish

Englishman's Loop

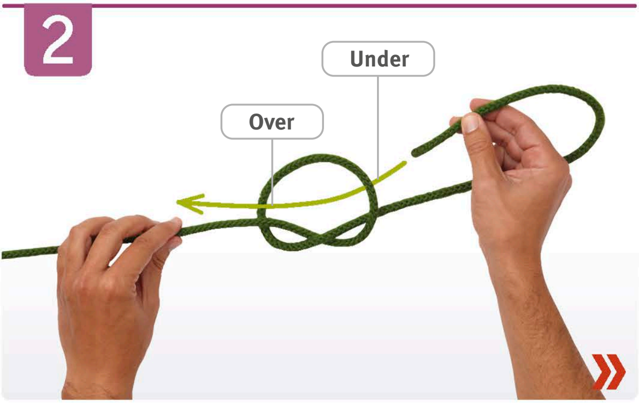
- Used to form a fixed loop.
- Based on two Overhand Knots (*see pp.28–29*).
- Similar to the Fisherman's Knot (*see pp.157–59*).



1


Cross under
Under
Over

2



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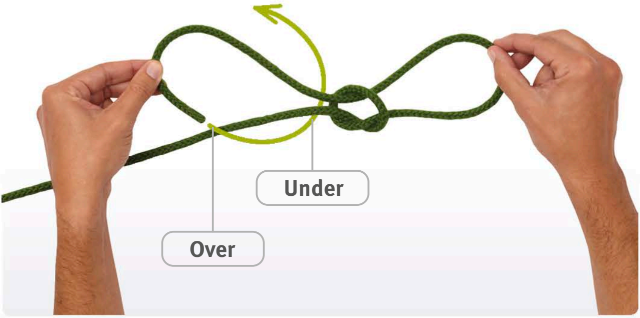

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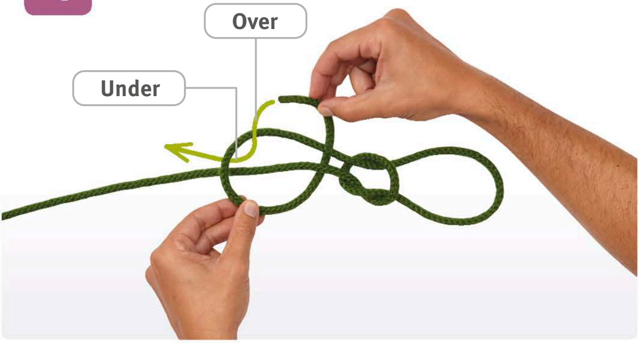

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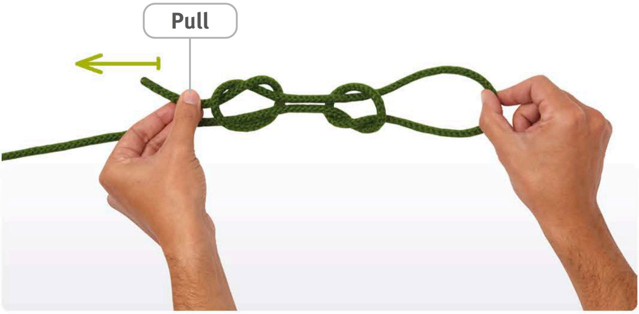

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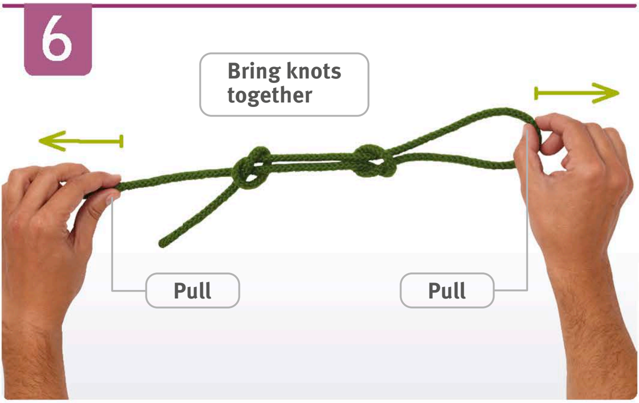
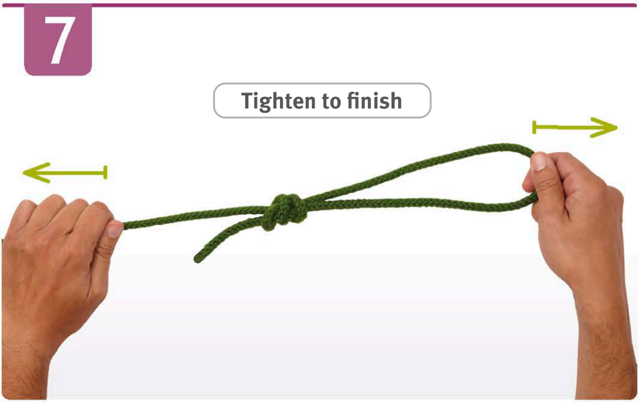
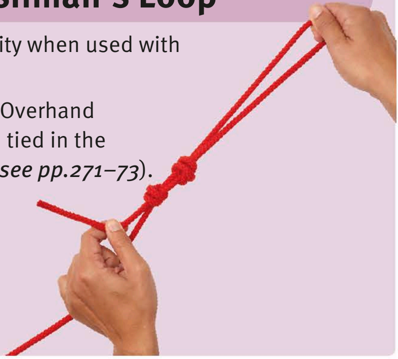

Bring knots together
Pull
Pull

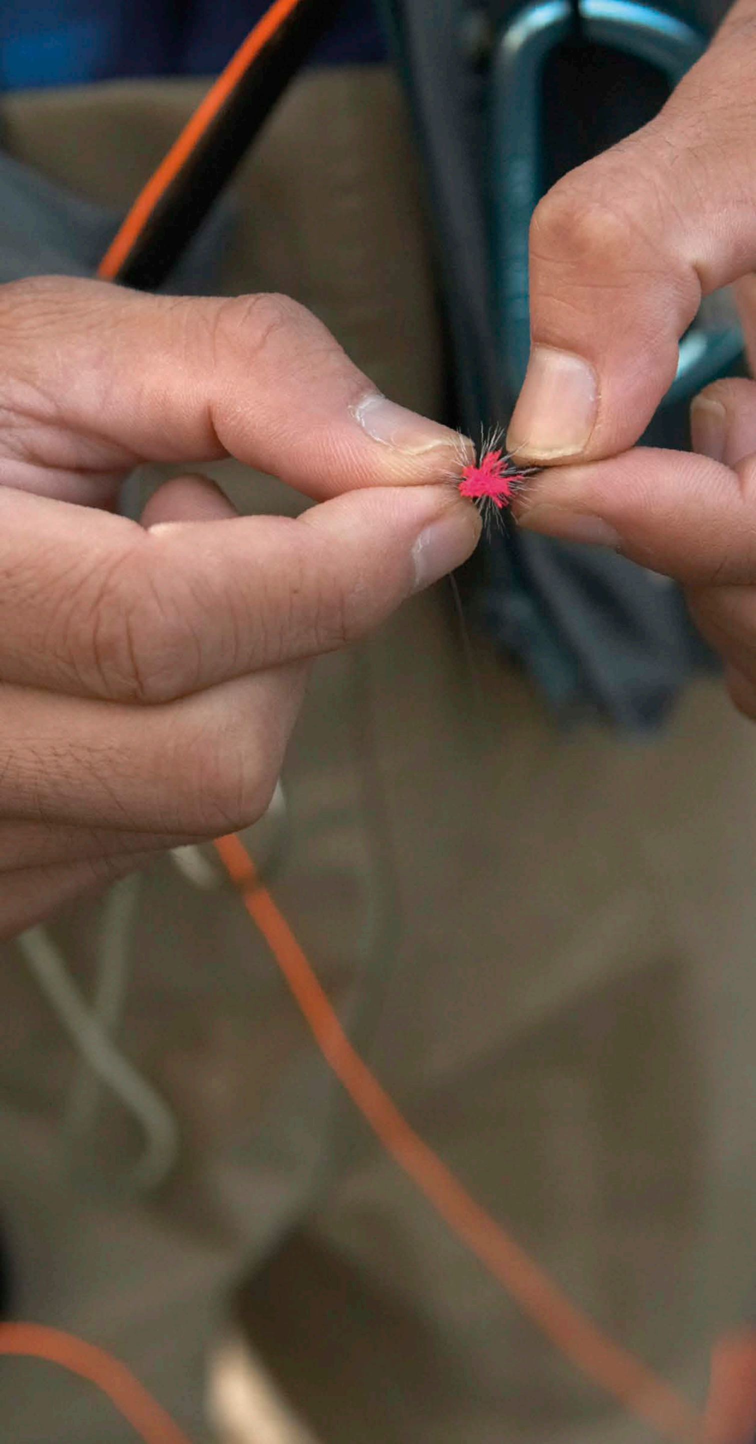
7


Tighten to finish

Double Englishman’s Loop

- Provides extra security when used with a very slippery line.
- Simply double each Overhand Knot (*see pp.28–29*) tied in the Englishman’s Loop (*see pp.271–73*).
- Use only in thin line and cords.





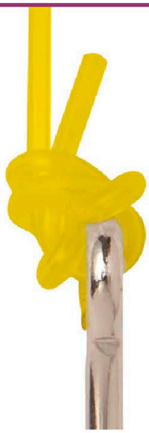
BEST FOR ...
Fishing

Being able to secure a line to a hook is a fundamental angling skill. It is important to remember that some fishing knots can only be used with lines of a certain thickness and material.

Palomar Knot

» pp.209–10

- ✓ The strongest knot for tying a fishing line to a hook – can take a great deal of strain.
- ✓ Will work with even the most slippery nylon line.
- ✓ Moistening the line will give a neater finish to the knot.

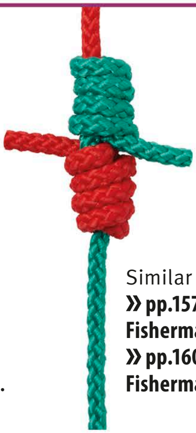


Similar knots:
» pp.205–06 Snelling a Hook
» pp.207–08 Clinch Knot

Blood Knot

» p.168–71

- ✓ Commonly used by anglers to join together two thin pieces of nylon line.
- ✓ Can take a great deal of strain.
- ✓ Moistening the line will help to draw the knot tight.



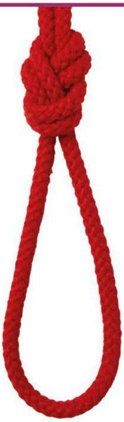
Similar knots:
» pp.157–59 Fisherman's Knot
» pp.160–63 Double Fisherman's Knot

Figure-of-Eight Loop » pp.249–50

✓ A knot that is quick to tie – even with the finest fishing line.

✓ Favoured by anglers because it is easy to tie and extremely strong.

✗ Difficult to untie, especially when wet.



Similar knots:
» pp.253–54 Overhand Loop
» pp.255–58 Double Overhand Loop

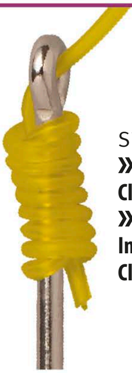
Snelling a Hook

» pp.205–06

✓ A strong, neat method for tying line to a hook.

✓ Works on spade-ended hooks (hooks without an eye) as well as eyed hooks.

✓ Moistening the line will help to draw the knot tight.



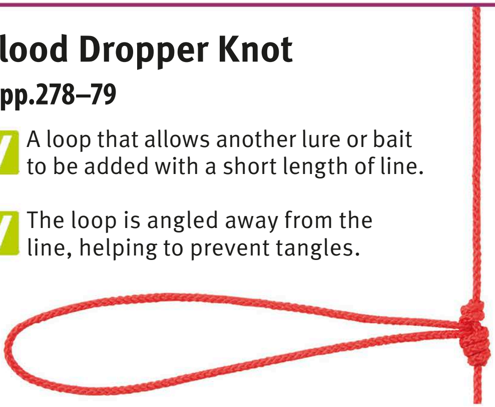
Similar knots:
» p.207–08 Clinch Knot
» p.208 Improved Clinch Knot

Blood Dropper Knot

» pp.278–79

✓ A loop that allows another lure or bait to be added with a short length of line.

✓ The loop is angled away from the line, helping to prevent tangles.



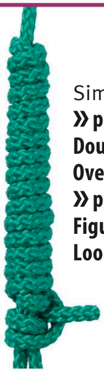
Similar knots:
» pp.160–63 Double Fisherman's Knot
» p.168–71 Blood Knot

Bimini Twist » pp.280–82

✓ A knot that makes a long strong loop in all types of fishing line.

✓ Will not slip if it has been tied correctly.

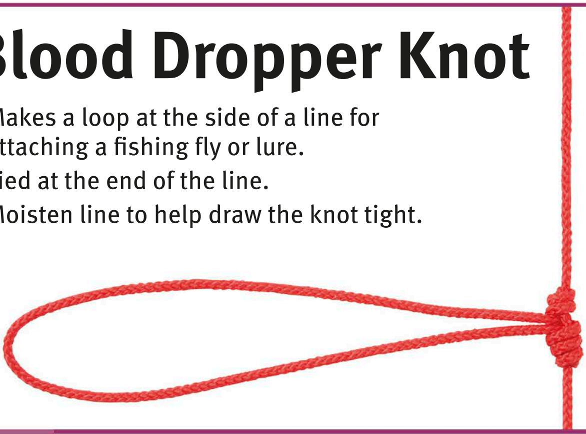
✗ Needs two people and a good deal of practice to make successfully.



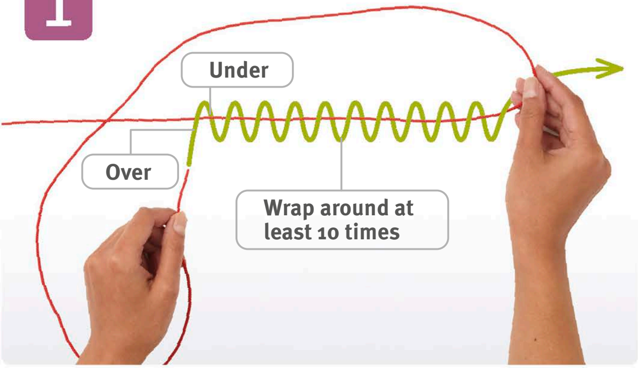
Similar knots:
» pp.255–58 Double Overhand Loop
» pp.269–70 Single Figure-of-Eight Loop on the Bight

Blood Dropper Knot

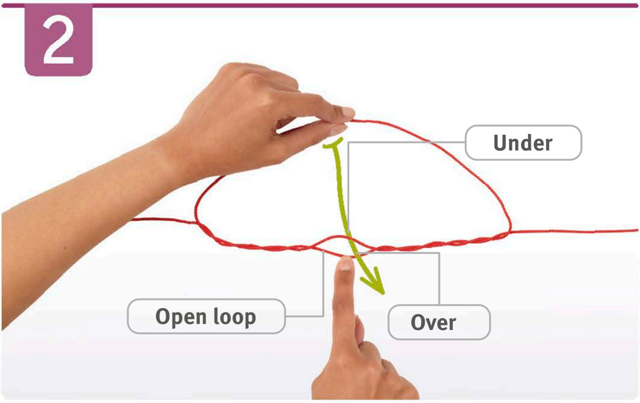
- Makes a loop at the side of a line for attaching a fishing fly or lure.
- Tied at the end of the line.
- Moisten line to help draw the knot tight.



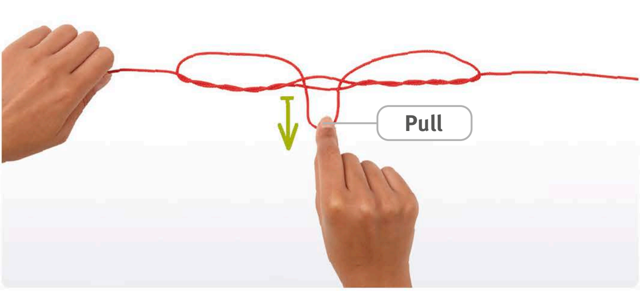
1


Under
Over
Wrap around at least 10 times

2


Under
Open loop
Over

3



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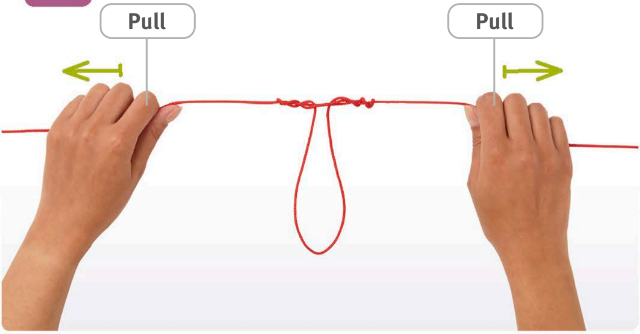

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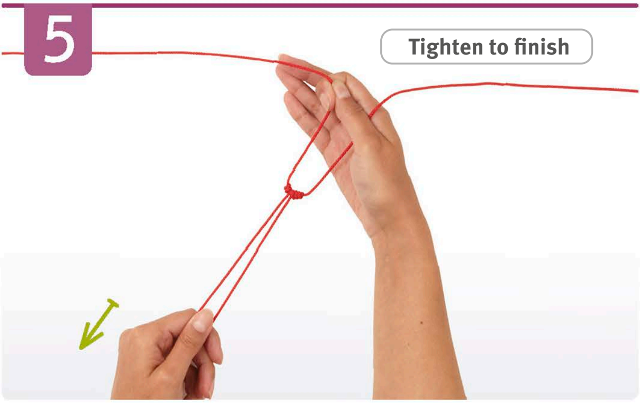
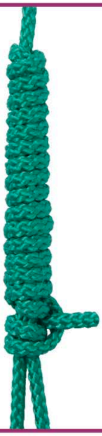

Tighten to finish

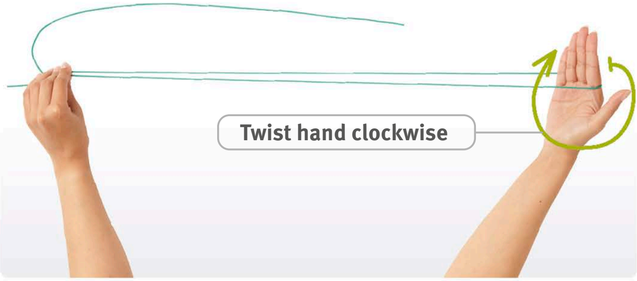
Bimini Twist



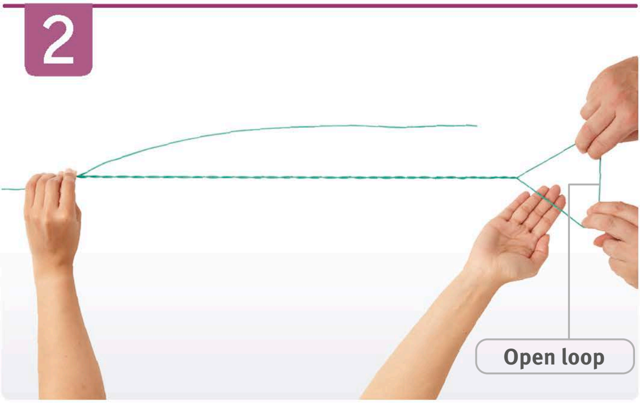
- Originally developed for use in big-game fishing.
- Suitable for both braided and monofilament fishing line.
- Forms a long, strong loop at the end of a fishing line.
- Needs practice and more than one person to tie.

1

Double the line


Twist hand clockwise

2



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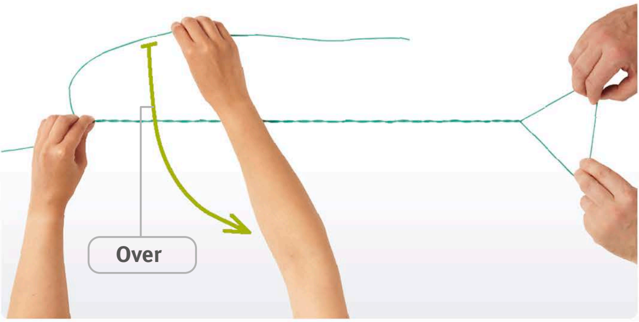
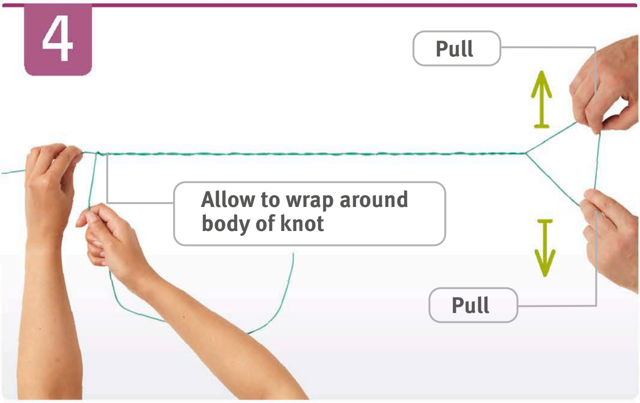
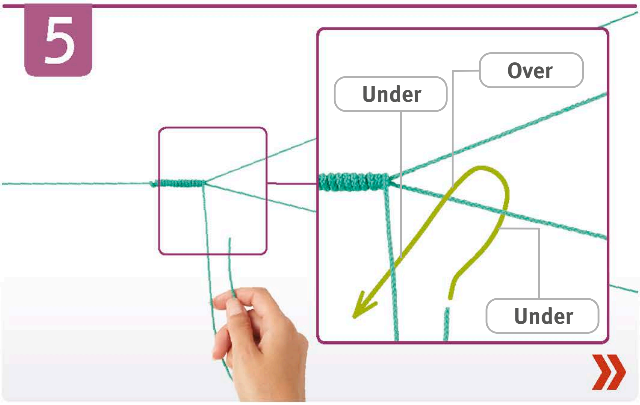

Over

4

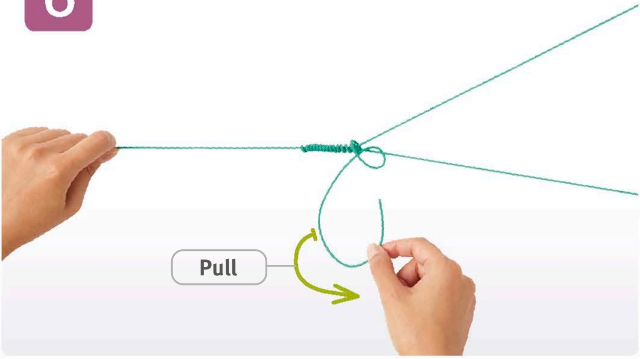

Pull
Allow to wrap around body of knot
Pull

5


Under
Over
Under

»

6



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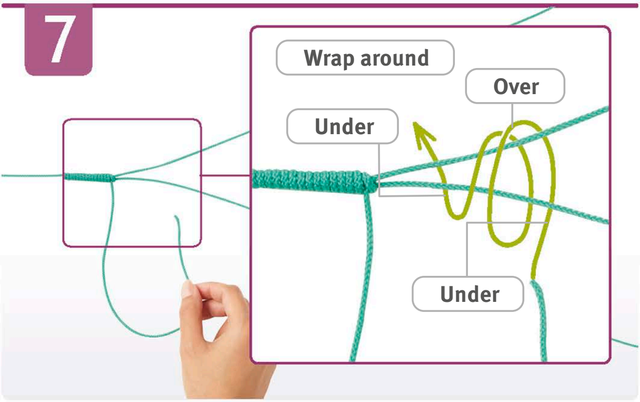
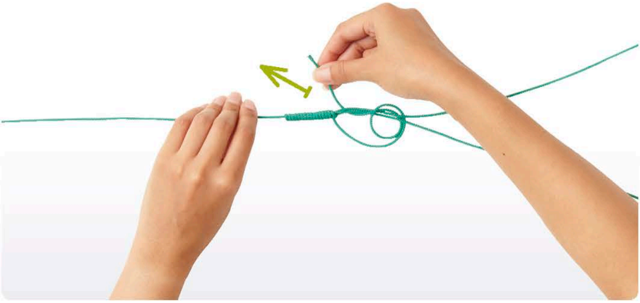

Wrap around
Over
Under
Under

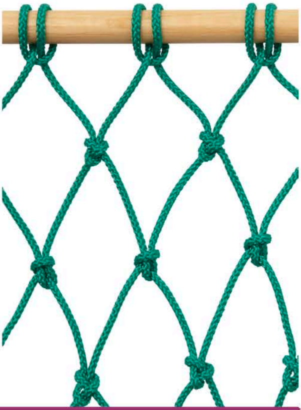
8

Tighten and trim to finish

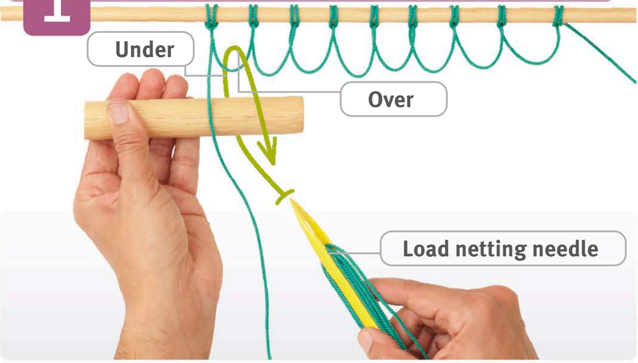


Basic Net

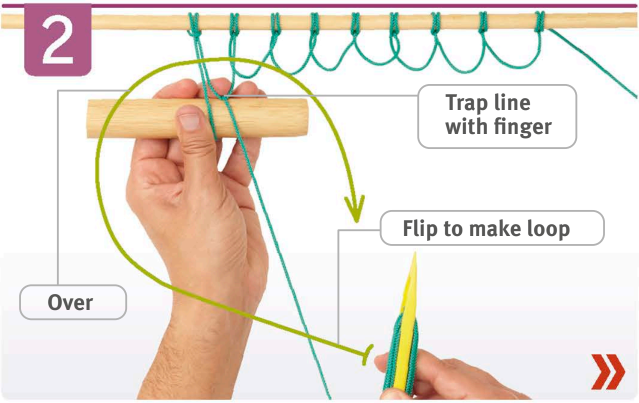
- A widely used technique for making and mending nets.
- Use a netting needle (*see p.19*, *p.284*) to hold the line while you work.
- Use a gauge – a piece of wood roughly half the diameter of the mesh – to ensure even spacing.



1 TIE CLOVE HITCHES (»pp.140–41) AROUND A POLE

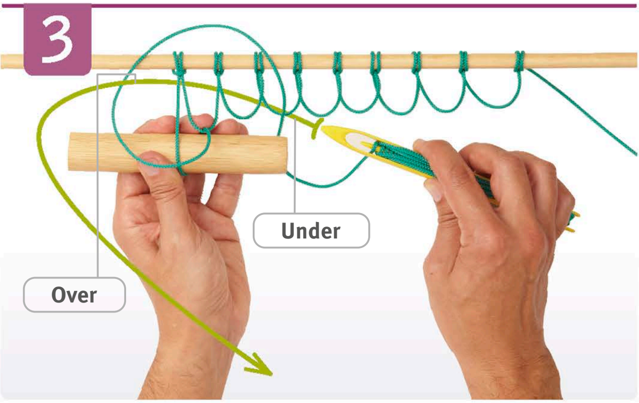

Under
Over
Load netting needle

2


Trap line with finger
Flip to make loop
Over

»

3



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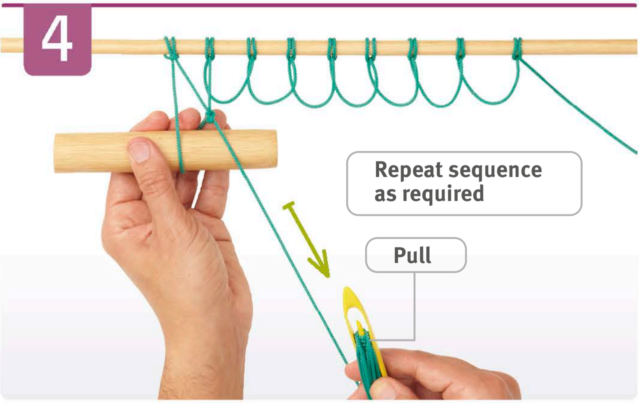
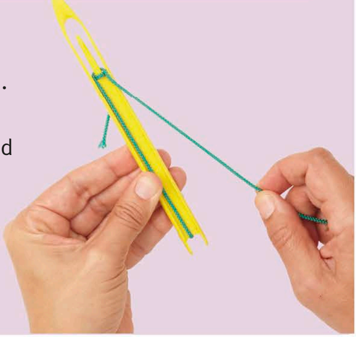

Repeat sequence as required
Pull

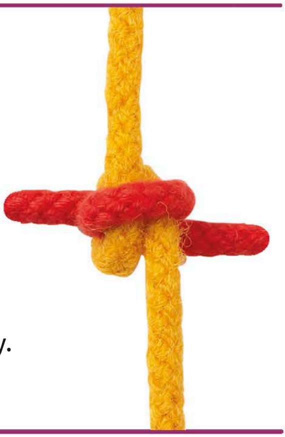
Loading a needle

- Tie a half hitch with the line around the spike in the middle of the needle.
- Pass the long end of the line under the needle and back up the other side.
- Loop the line around the spike and back under the needle; repeat until finished.



Cargo Net Knot

- Used to make a square net from heavy rope.
- Tied with one long rope and one shorter rope.
- Lay the long rope vertically and the short rope horizontally.



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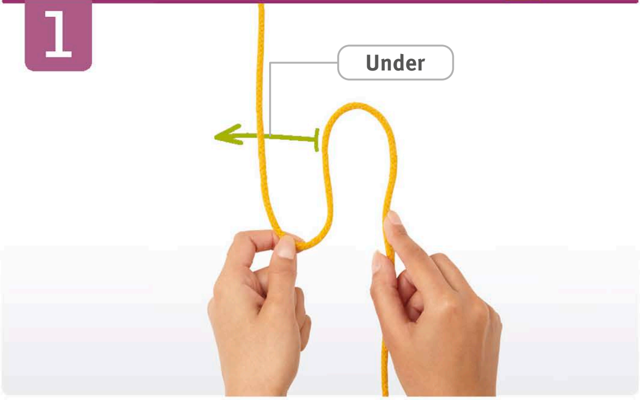

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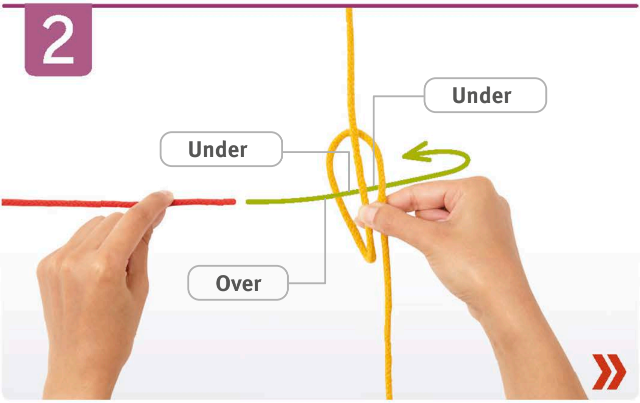
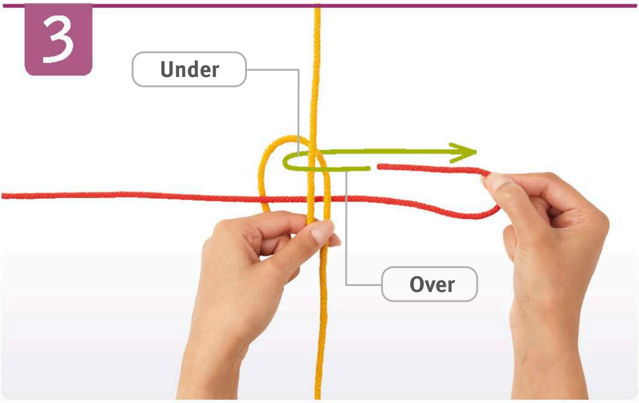

Under
Under
Over

»

3



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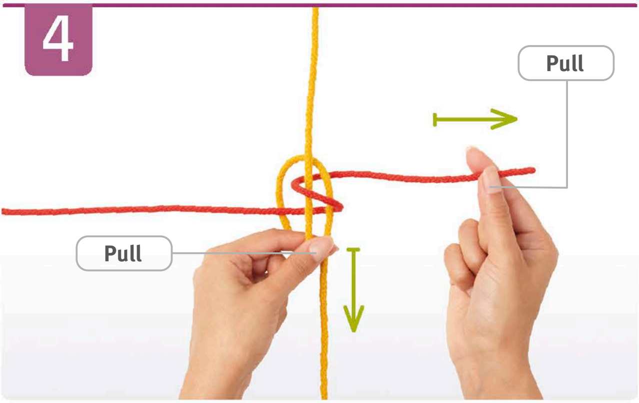

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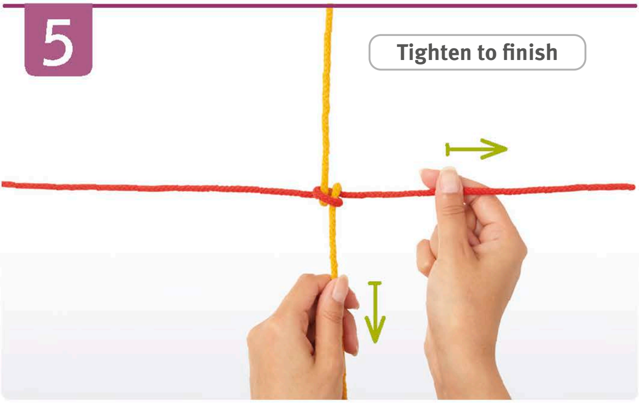
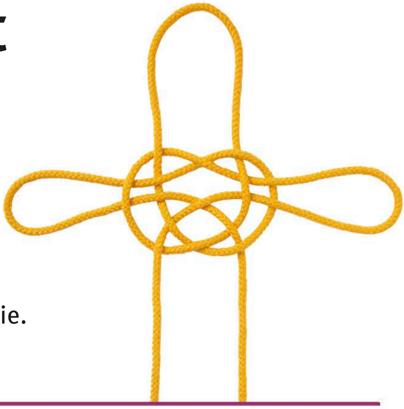

Tighten to finish

Jury Mast Knot

- A simple technique for tying a multiple loop knot.
- Not suitable for use in thick rope.
- Can be difficult to untie.



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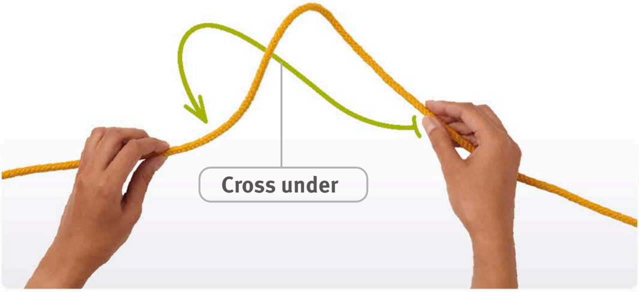
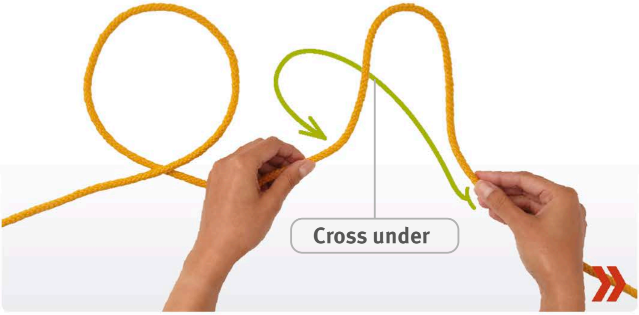
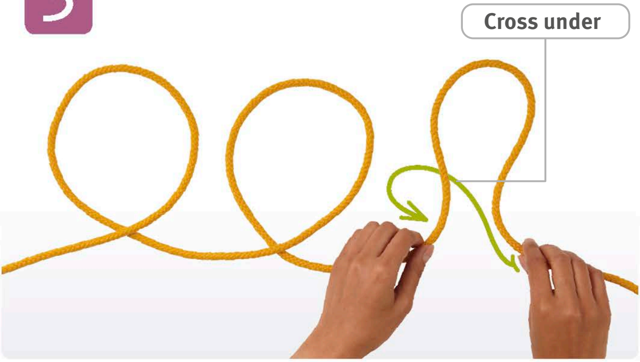

Cross under

2

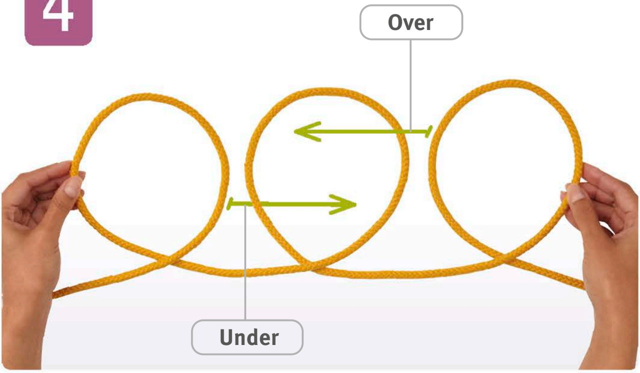

Cross under

»

3


Cross under

4



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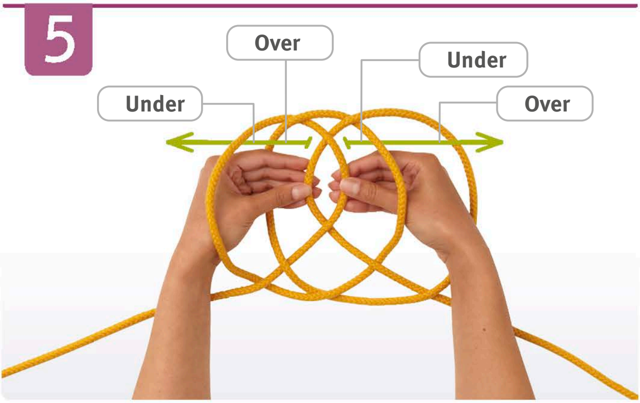
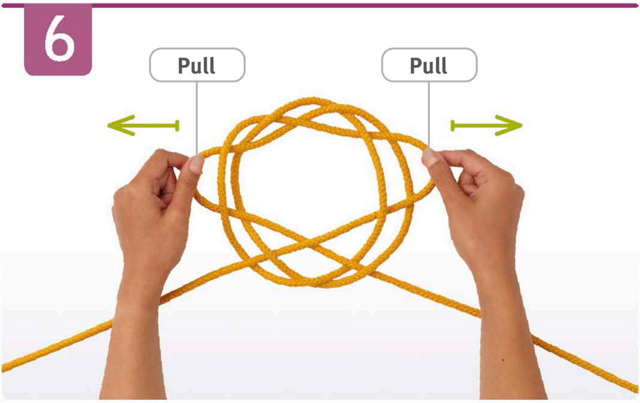

Over
Under
Under
Over

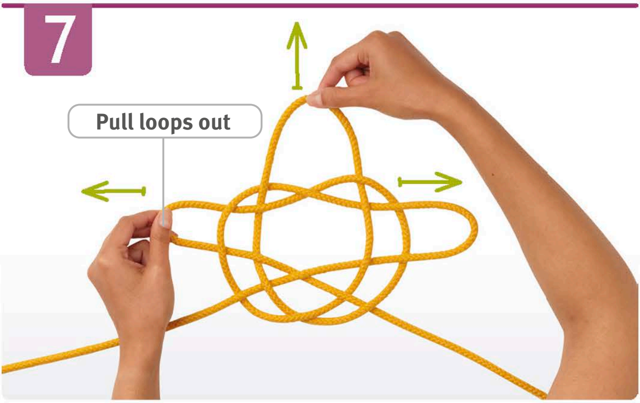
6



Pull

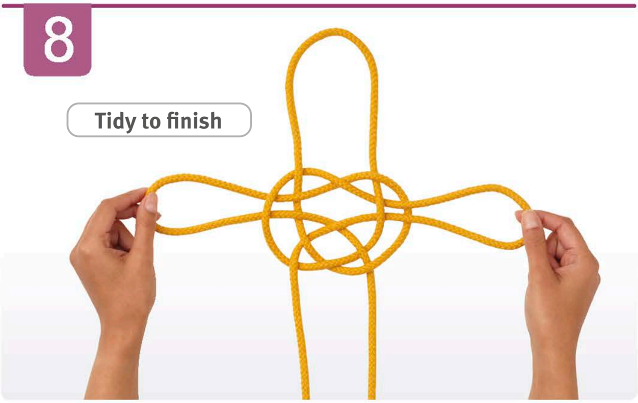
Pull

7



Pull loops out

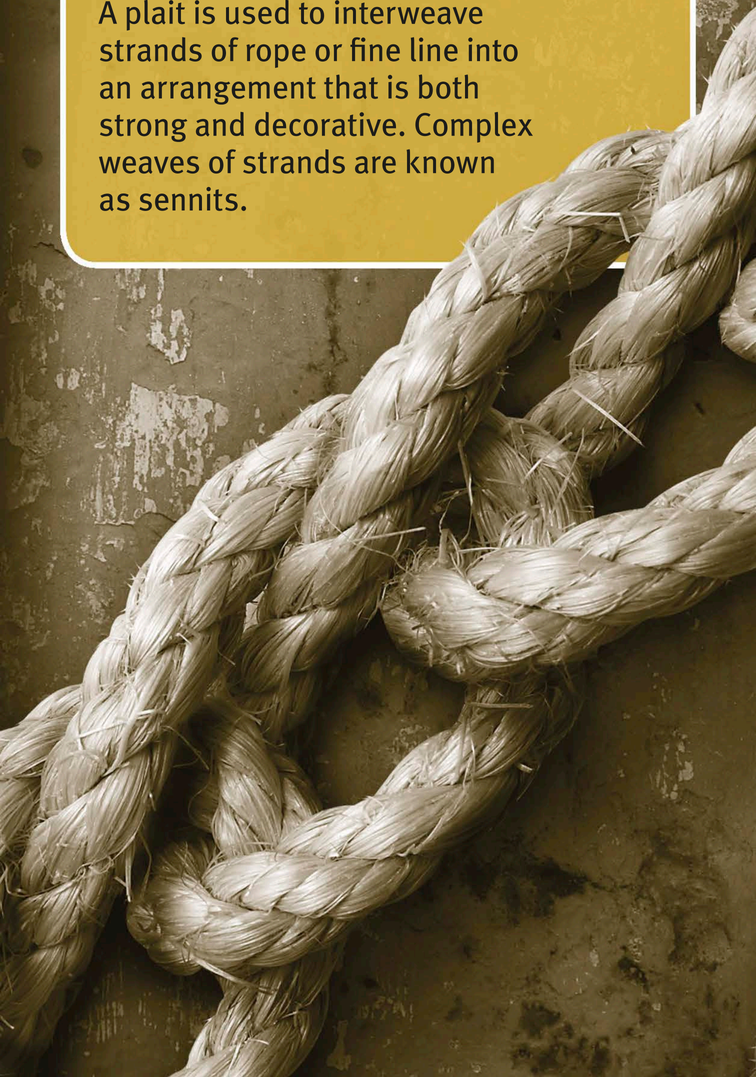
8



Tidy to finish

Plaits and Sennits

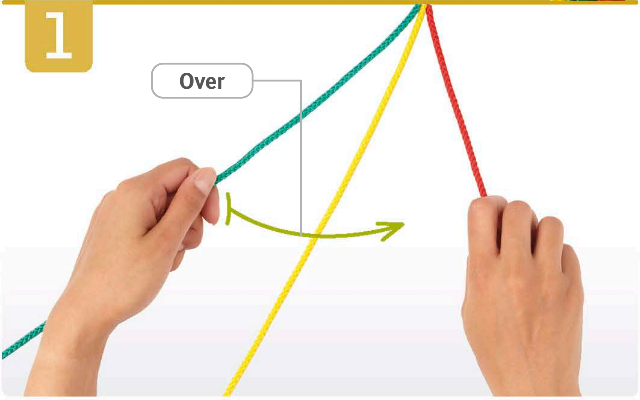
A plait is used to interweave strands of rope or fine line into an arrangement that is both strong and decorative. Complex weaves of strands are known as sennits.



Three-Strand Flat Plait

- The simplest of plaits.
- Bind one end of the strands together (*see pp.374–75*) before starting.
- Move alternate outer strands to the middle of the plait.
- Keep all the strands flat and tight as you plait.

1



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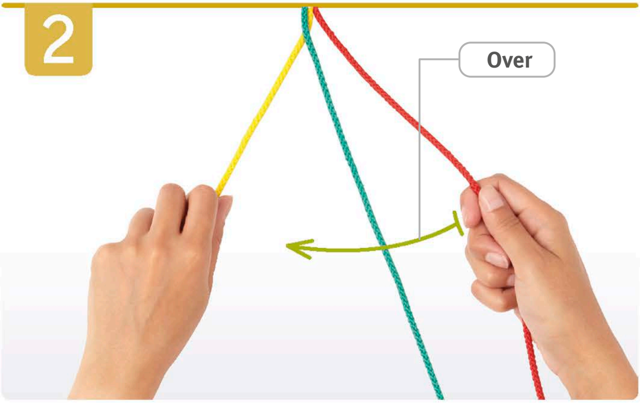

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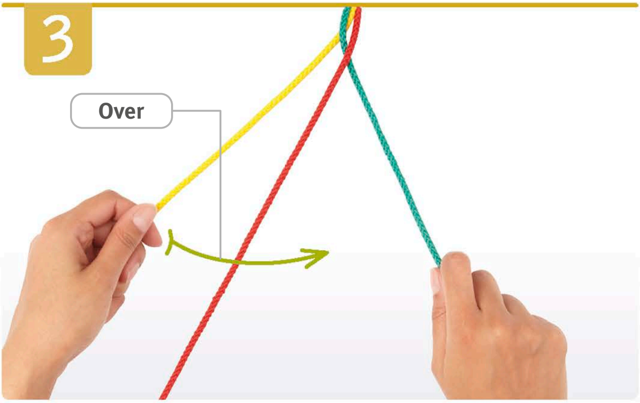
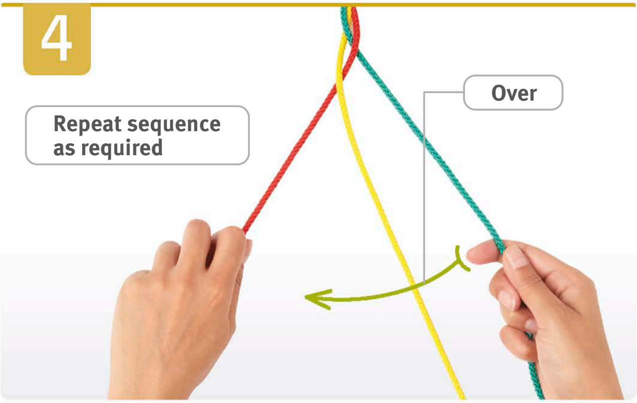


Over

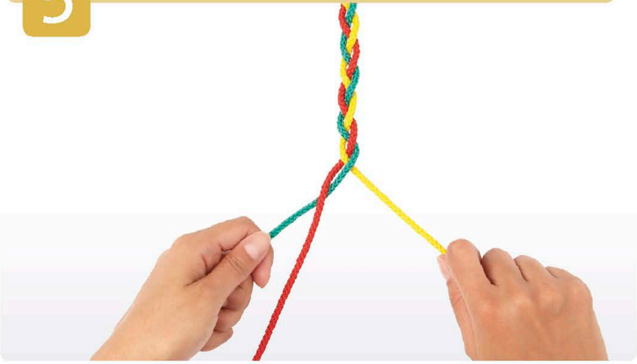
4



Repeat sequence as required

Over

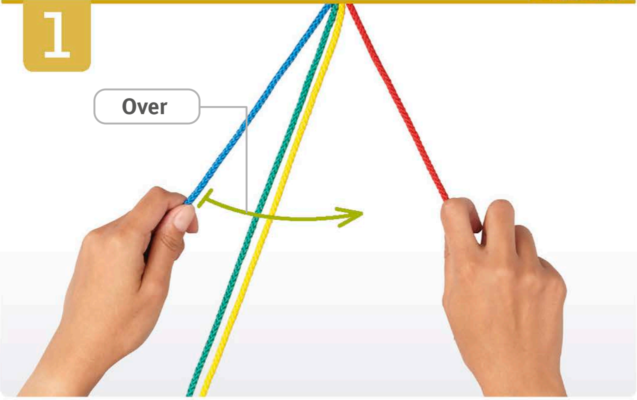
5 WHIP (❯❯pp.374–75) STRANDS TOGETHER TO FINISH



Four-Strand Flat Plait

- Forms an asymmetric flat plait.
- More decorative than the Three-Strand Flat Plait (*see pp.292–93*).
- Bind one end of the strands together (*see pp.374–75*) before starting.
- Keep all the strands flat and tight as you plait.

1



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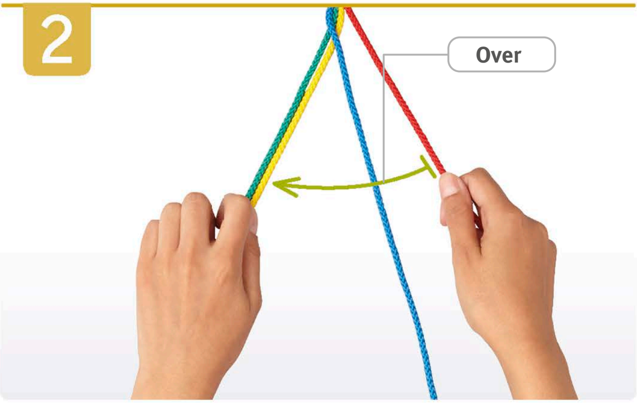

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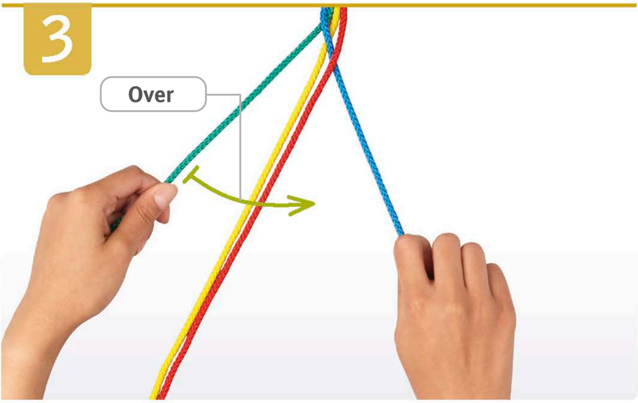

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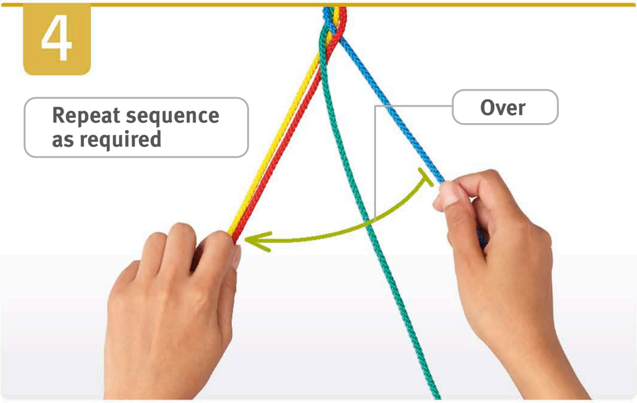
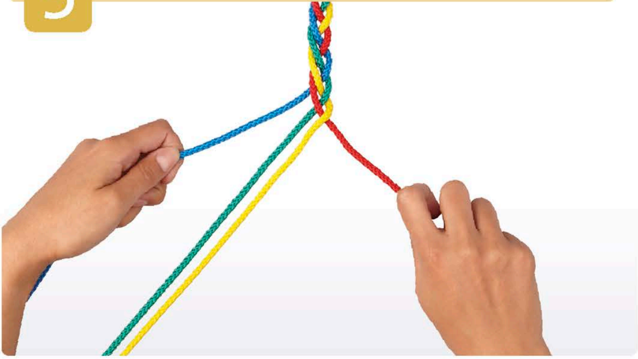

Repeat sequence as required

5

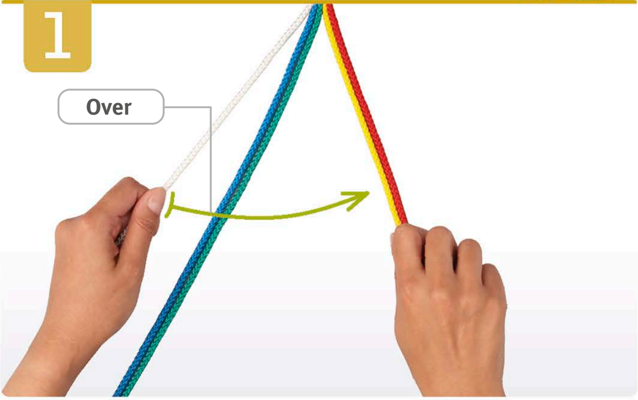
WHIP (»pp.374–75) STRANDS TOGETHER TO FINISH



Five-Strand Flat Plait

- Move alternate outer strands to the middle of the plait.
- Bind one end of the strands together (*see pp.374–75*) before starting.
- Keep all the strands flat and tight as you plait.

1



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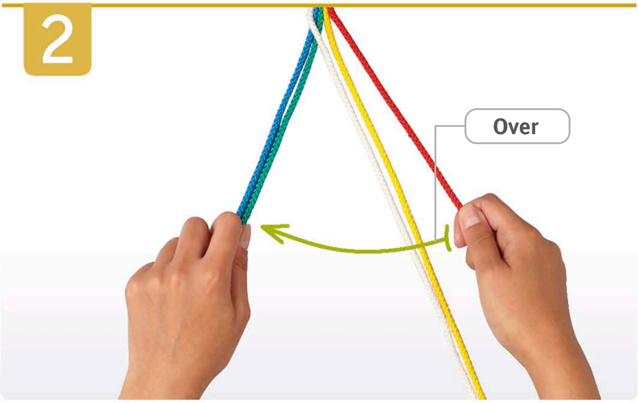

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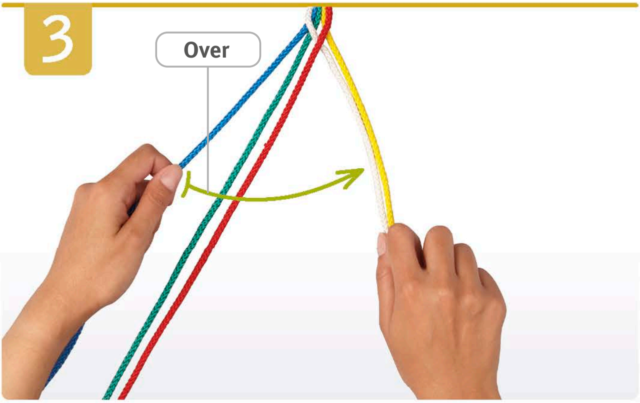
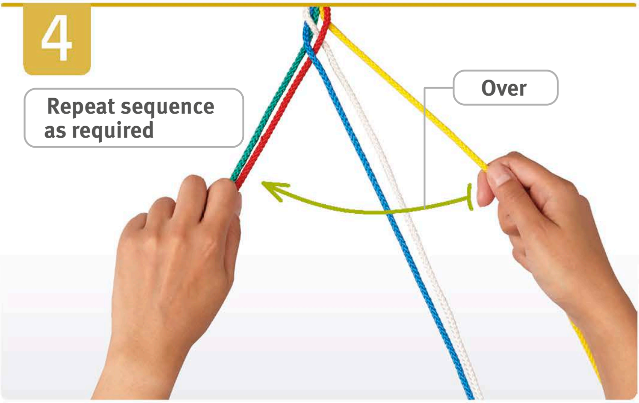


Over

4

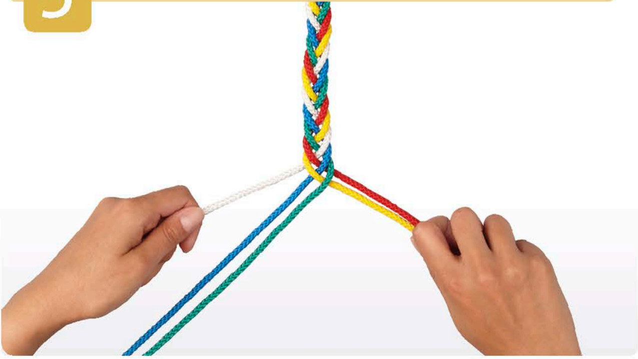


Repeat sequence as required

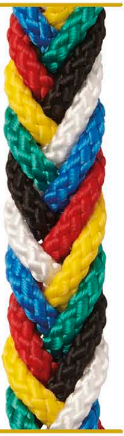
Over

5

WHIP (»pp.374–75) STRANDS TOGETHER TO FINISH

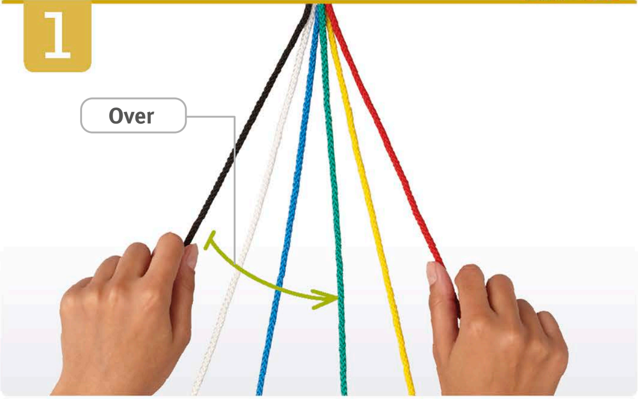


Six-Strand Flat Plait



- Forms a large, asymmetrical decorative plait.
- Bind one end of the strands together (*see pp.374–75*) before starting.
- Keep all the strands flat and tight as you plait.

1



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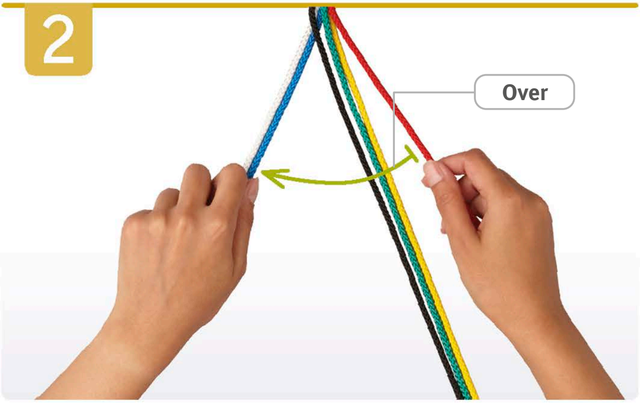

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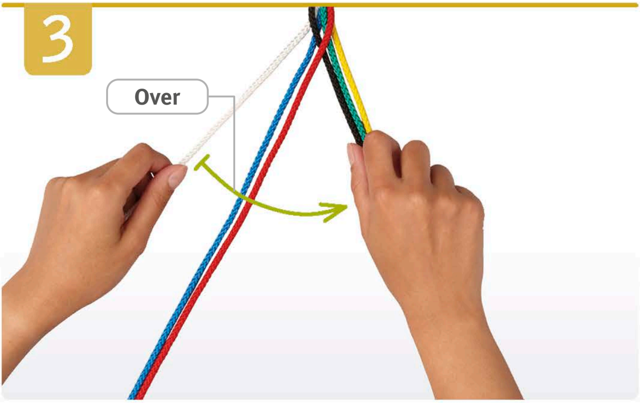
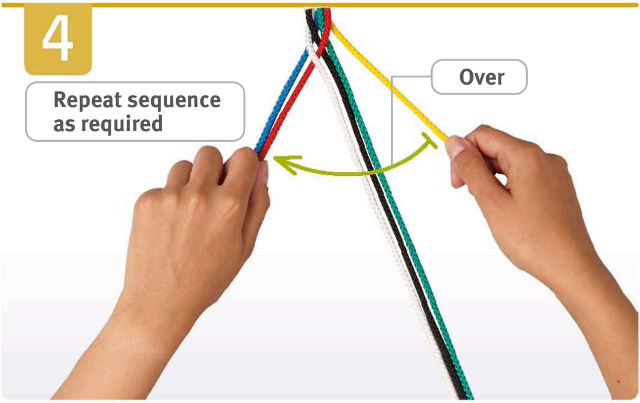


Over

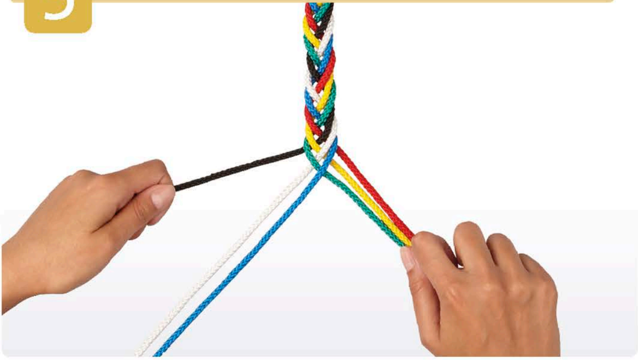
4



Repeat sequence as required

Over

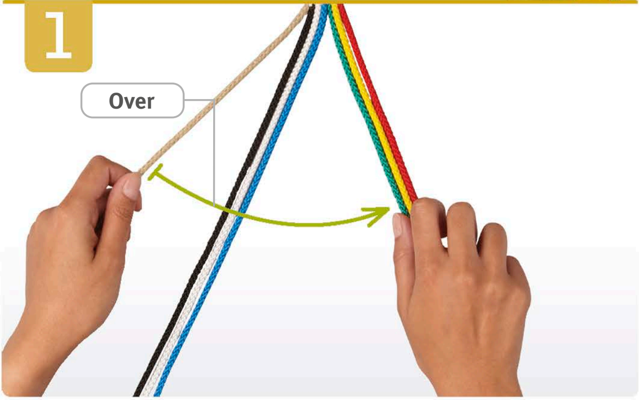
5 WHIP (»pp.374–75) STRANDS TOGETHER TO FINISH



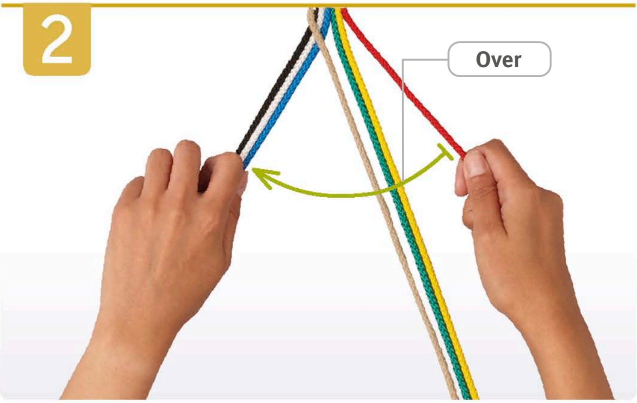
Seven-Strand Flat Plait

- Used to form a large decorative plait.
- The largest number of strands with which it is practical to make a plait.
- Bind one end of the strands together (*see pp.374–75*) before starting.
- Keep all the strands flat and tight as you plait.

1



2



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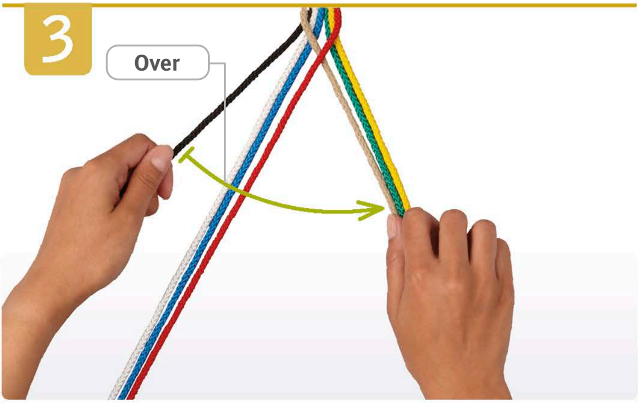
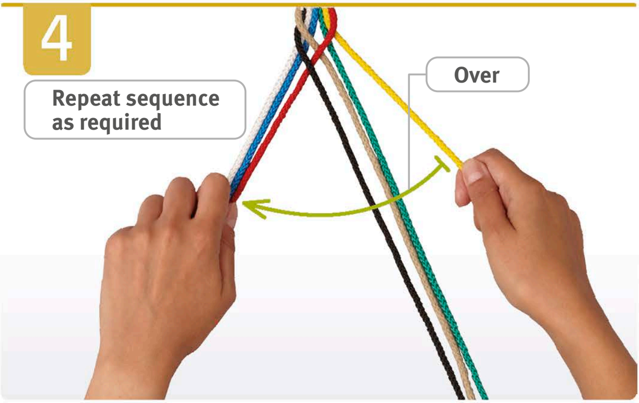


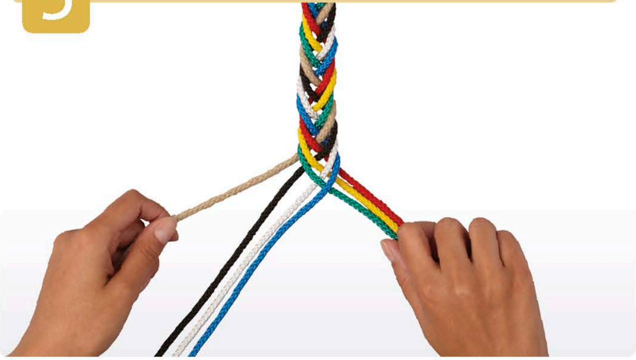
4

Repeat sequence as required



5

WHIP (»pp.374–75) STRANDS TOGETHER TO FINISH



BEST FOR ...
Gifts

There are a number of knots that are decorative as well as practical. They are ideal for making attractive and useful gifts.

Monkey's Fist » pp.49–53

✓ A decorative ball knot that is perfect for making a key fob. Seize (*see pp.387–89*) a loop on the end to attach the keys.

✓ Can also be turned into a doorstop – simply tie the knot with large rope, and place a weight in its centre.

Similar knots:
» pp.62–71
Manrope Knot

Basic Net » pp.283–84

✓ Used to make a durable, lasting net.

✓ The finished net can be as large or small as you want, and may be used for storage or even as part of a hammock.

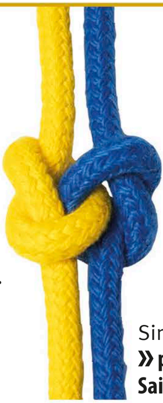
X Requires the use of a netting needle (*see p.19*).

Similar knots:
» pp.285–86
Cargo Net Knot

True Lover's Knot

» pp.80–81

- ✓ One of many knots used as as a symbol of binding love between two people.
- ✓ Can be mounted in a frame to make a wedding present.
- ✓ The two Overhand Knots (*see pp.28–29*) are separate but interlinked.



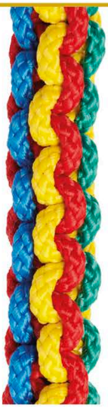
Similar knots:
» pp.82–84
Sailor's Cross

Square Crown Sennit » pp.330–31

✓ Easily made into a bracelet or belt.

✓ Highly decorative, but relatively simple to make.

✓ A core can be added to the centre of the sennit to create a key fob.



Similar knots:
» pp.327–29
Six-Strand Round Crowning

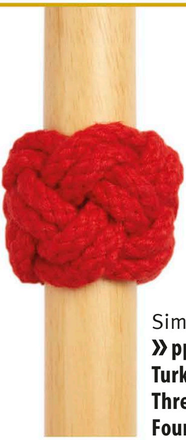
Turk's Head – Four-Lead Five-Bight

» pp.128–32

✓ Can be used to make a decorative napkin ring.

✓ Can also be flattened to make a small mat or coaster.

✓ The knot's structure can be stiffened by covering the inside of it with PVA glue.



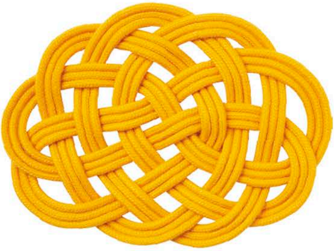
Similar knots:
» pp.117–23
Turk's Head – Three-Lead Four-Bight

Oval Mat » pp.311–15

✓ Can be used to make a coaster, table mat, or doormat.

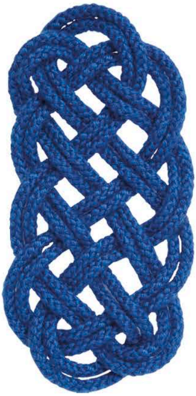
✓ Thinner rope is best for a coaster or table mat, thicker rope for a doormat.

✓ The pattern can be doubled or tripled, as required.



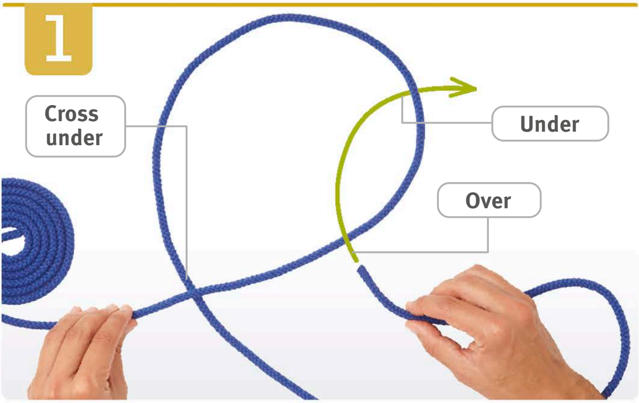
Similar knots:
» pp.306–10
Ocean-Plait Mat

Ocean-Plait Mat

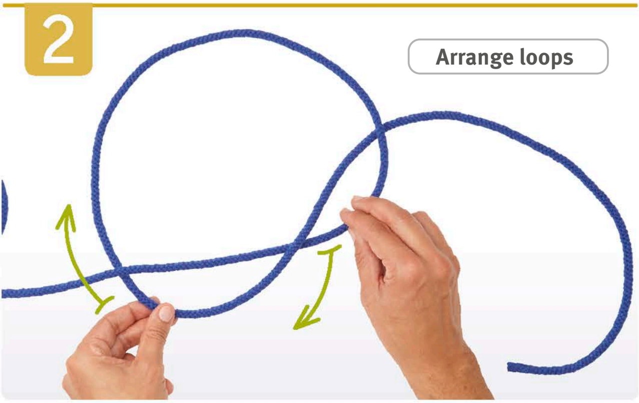


- Used to make a decorative mat.
- Tie loosely before working into a neat, taut final shape.
- Follow the pattern around two, three, four, or even five times to make a larger mat.

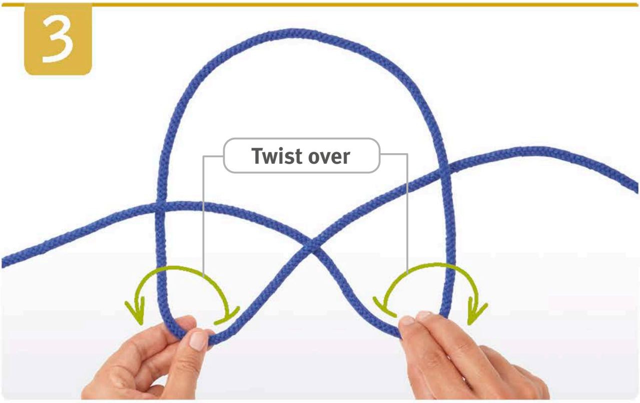
1


Cross under
Under
Over

2


Arrange loops

3



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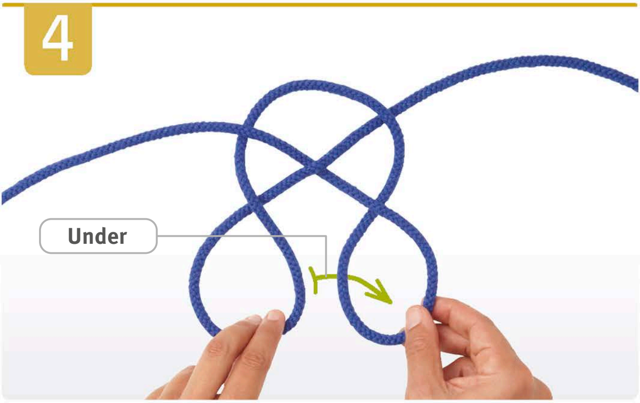

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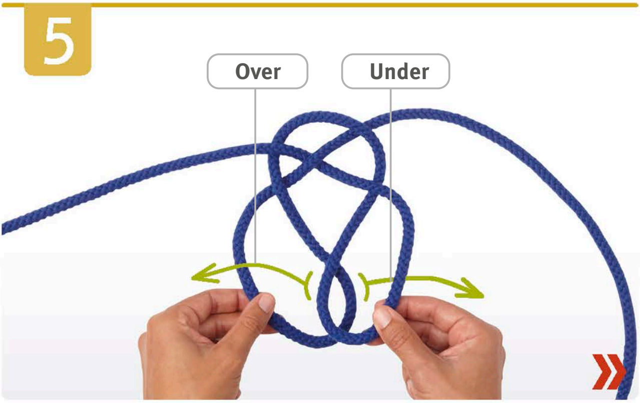
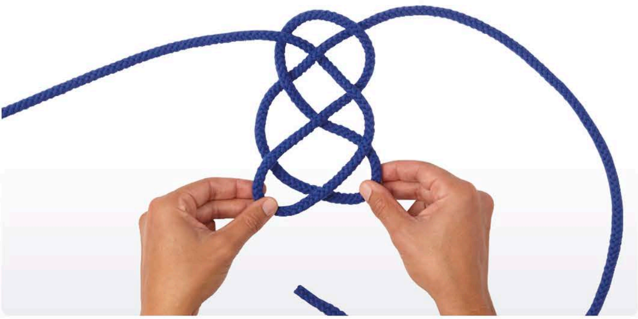


6

Make crossed strands even



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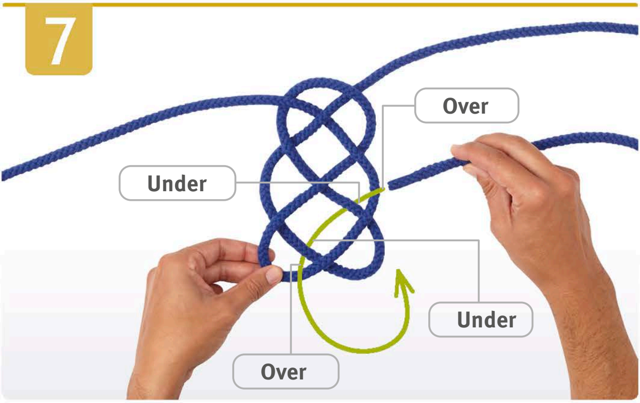
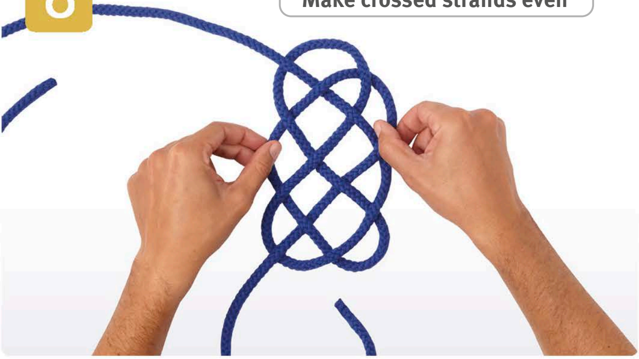

Over
Under
Under
Over

8

Make crossed strands even



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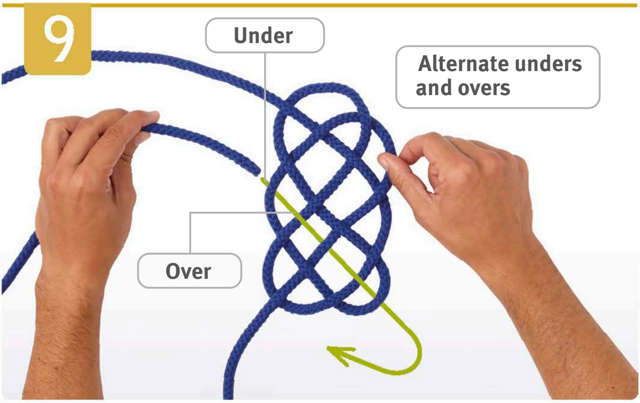
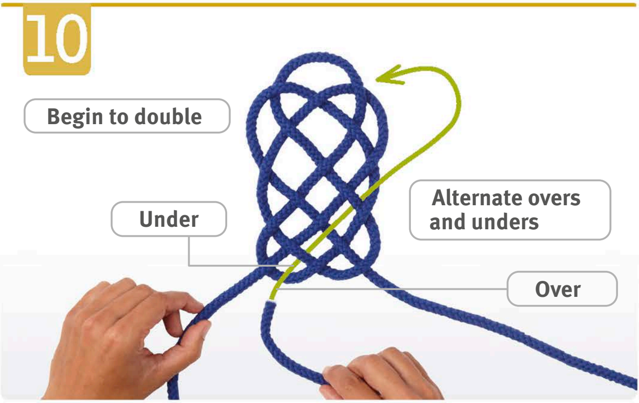
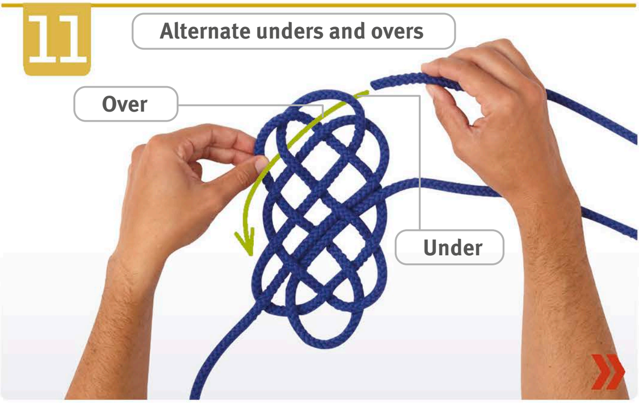

Under
Alternate unders and overs
Over

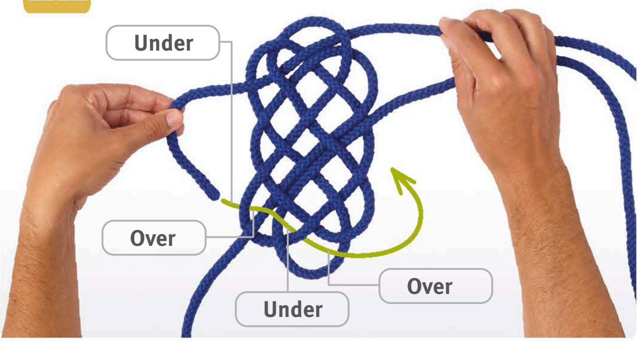
10


Begin to double
Under
Alternate overs and unders
Over

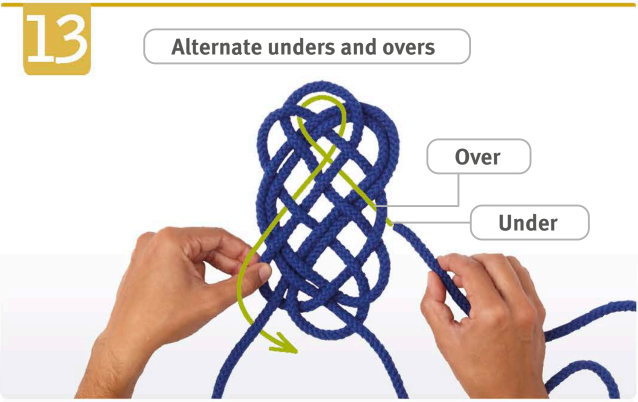
11


Alternate unders and overs
Over
Under

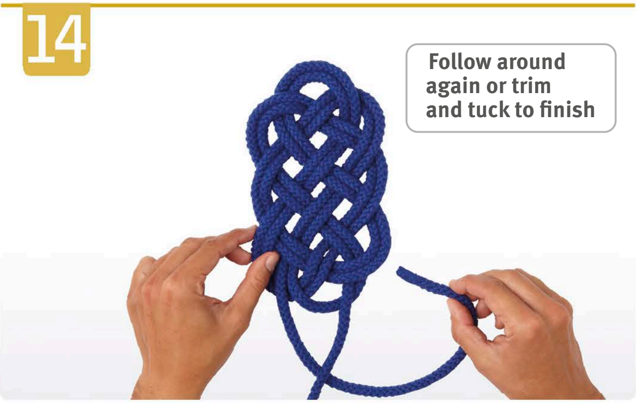
12


Under
Over
Under
Over

13

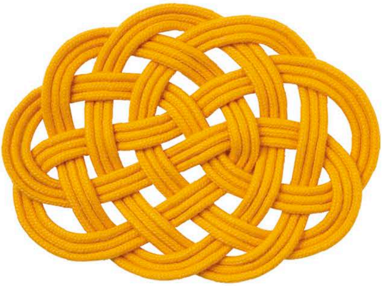

Alternate unders and overs
Over
Under

14

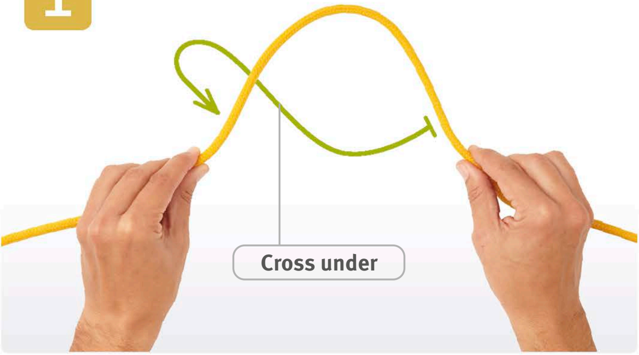

Follow around
again or trim
and tuck to finish

Oval Mat

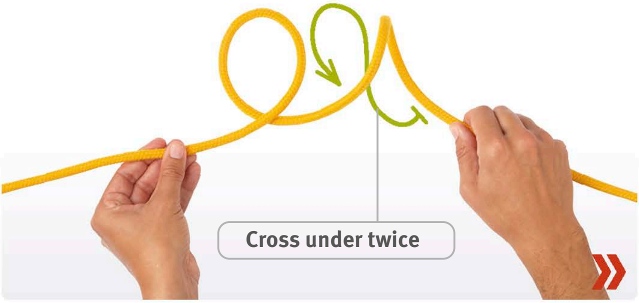
- Used to make a decorative mat.
- Use thin rope for a table mat and thick rope for a doormat.
- Pattern can be followed around three or more times.
- Requires a large amount of rope.



1

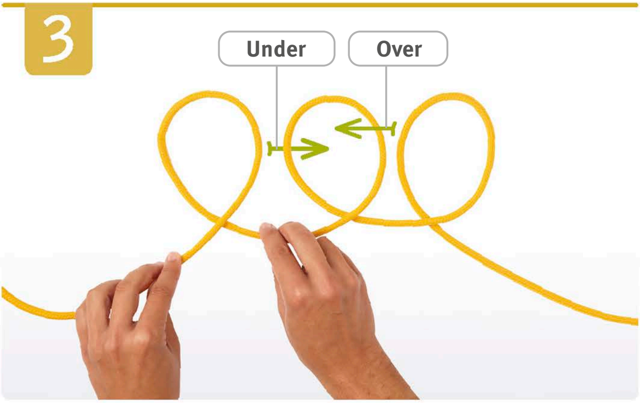

Cross under

2


Cross under twice

»

3



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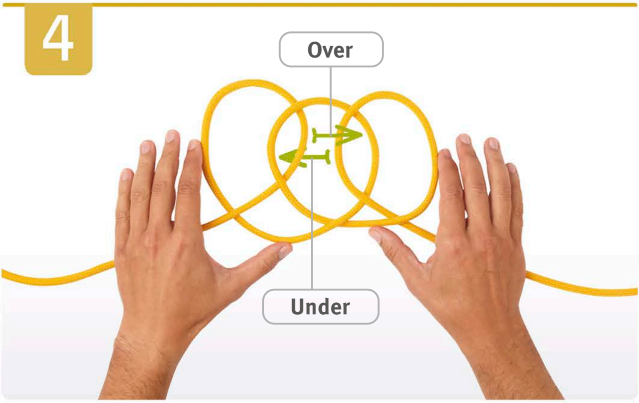

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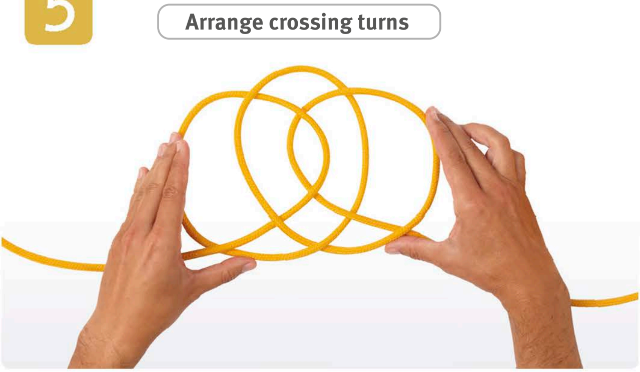
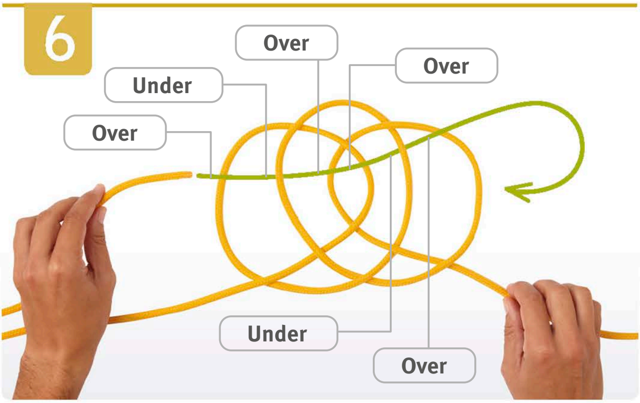
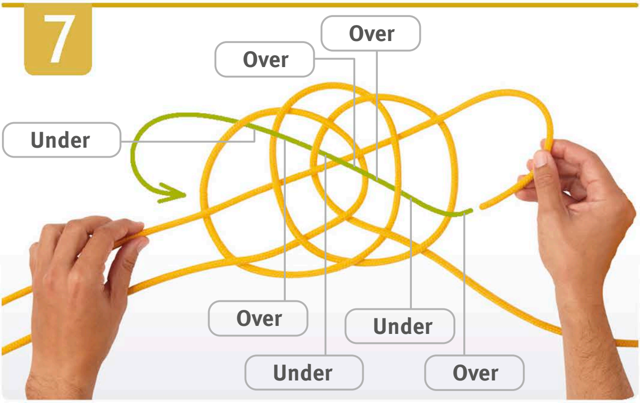

Arrange crossing turns

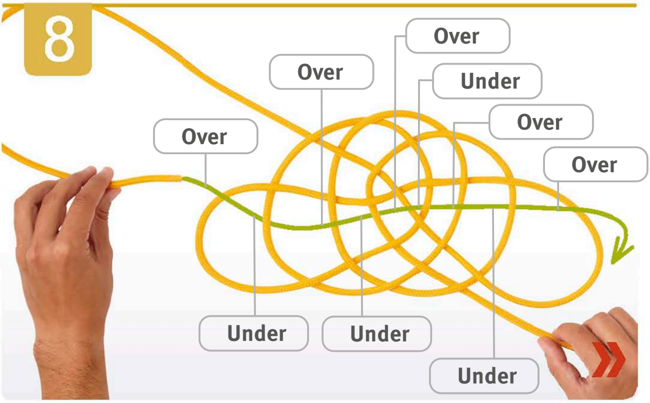
6


Over
Over
Under
Over
Under
Over

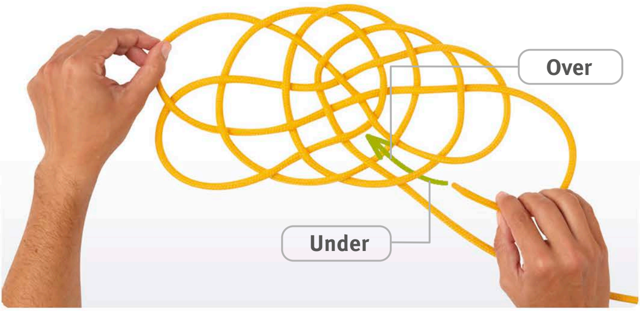
7


Over
Over
Under
Over
Under
Under
Over

8

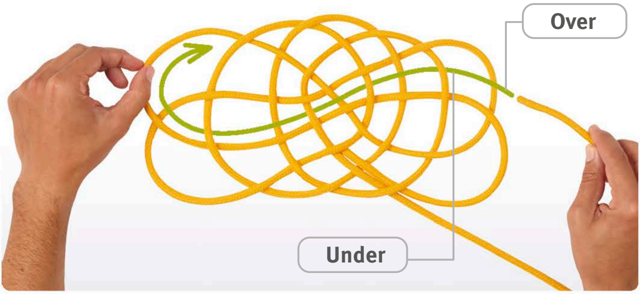

Over
Over
Under
Over
Over
Over
Under
Under
Under

9



10

Start to double with long end, alternating overs and unders



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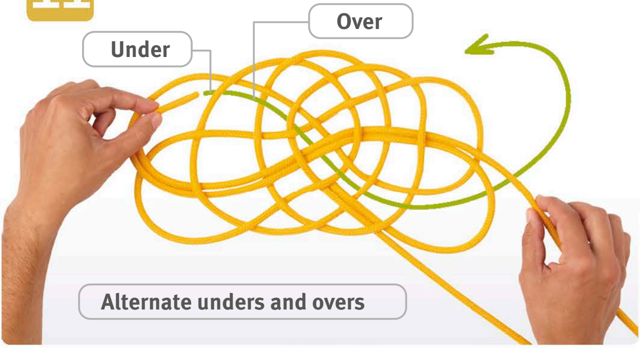
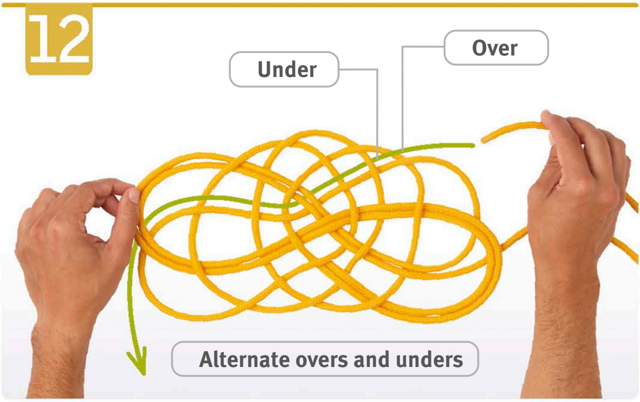
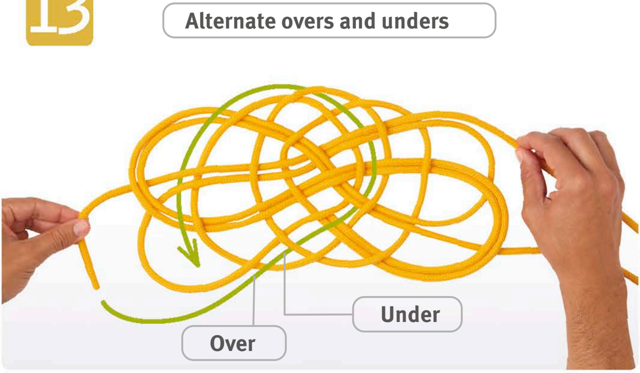


Alternate unders and overs

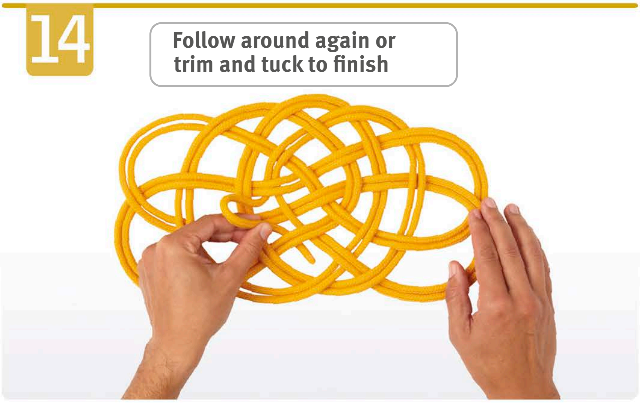
12


Under
Over
Alternate overs and unders

13


Alternate overs and unders
Under
Over

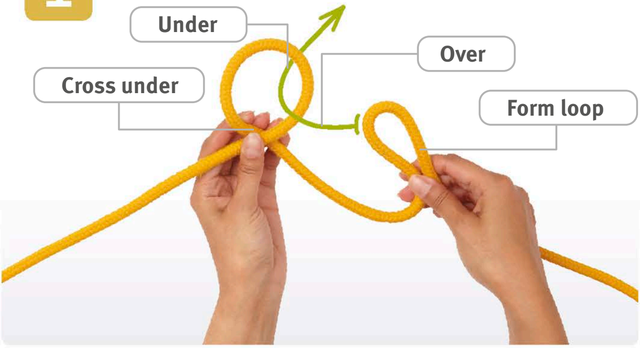
14


Follow around again or trim and tuck to finish

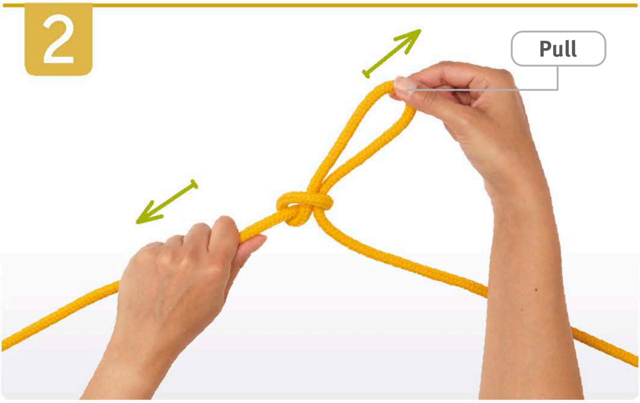
Chain Sennit

- Forms interlinked loops to shorten a rope.
- Also used by climbers to prevent rope from getting tangled.
- Work tight before moving on to the next step.
- Also known as the Drummer's Plait.

1


Under
Cross under
Over
Form loop

2



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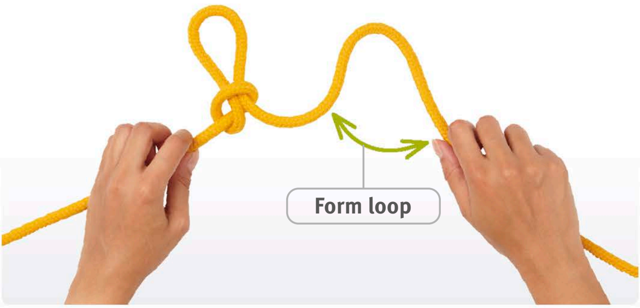

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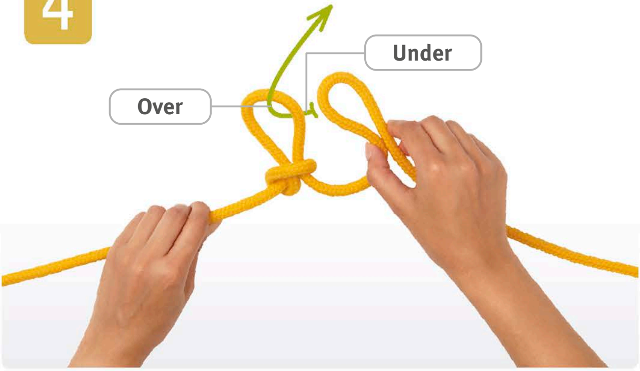

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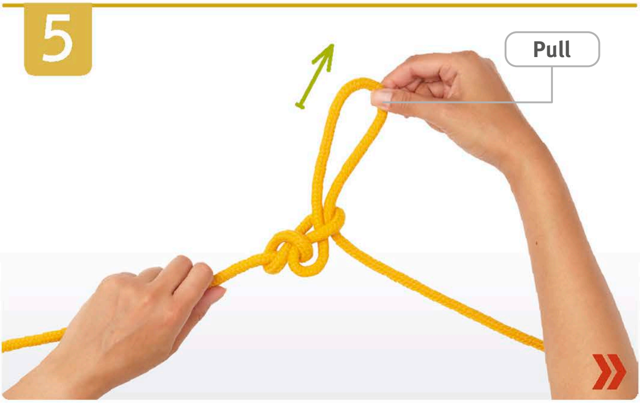
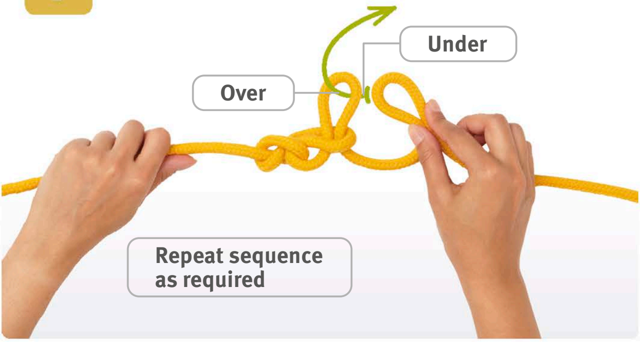
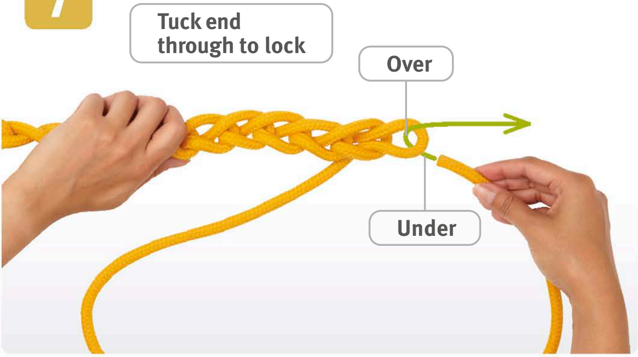


»

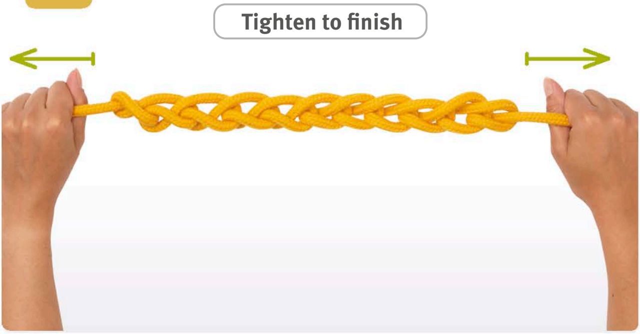
6


Under
Over
Repeat sequence as required

7


Tuck end through to lock
Over
Under

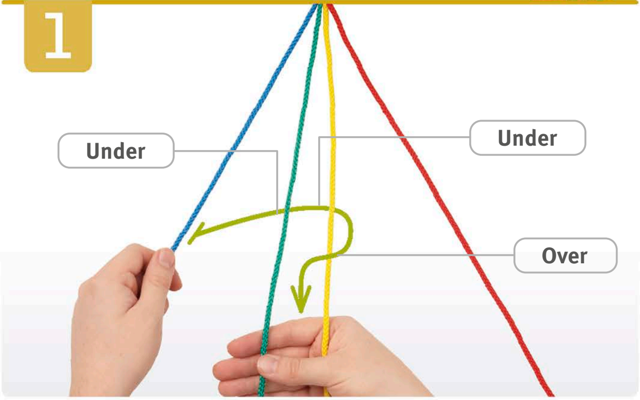
8


Tighten to finish

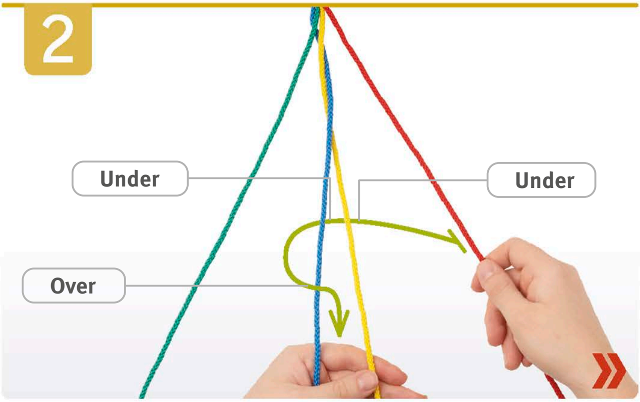
Four-Strand Round Sennit

- The simplest of the round plaits.
- Bind one end of the strands together (*see pp.374–75*) before starting.
- Keep all the strands tight as you plait.
- Ensure that you untangle the working ends regularly.

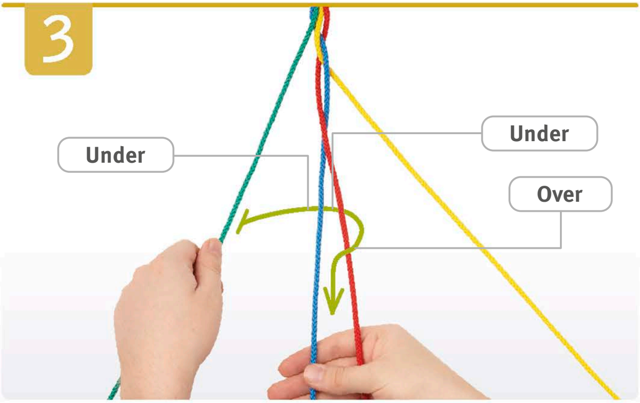
1


Under
Under
Over

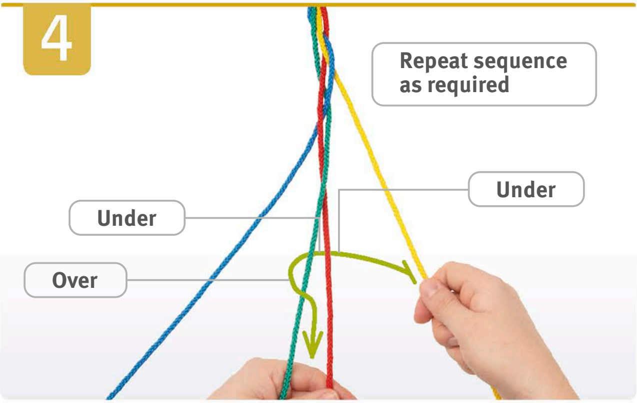
2


Under
Under
Over
»

3

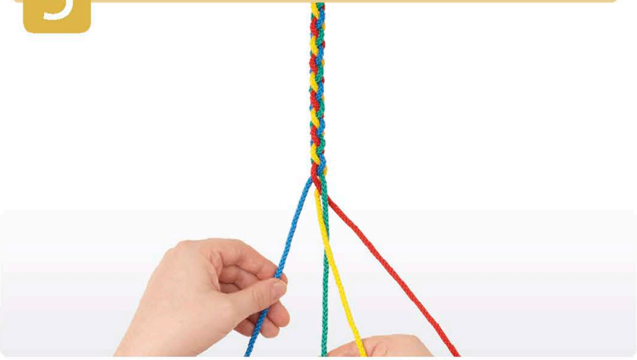

Under
Under
Over

4

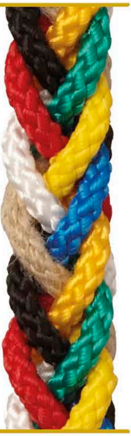

Repeat sequence as required
Under
Under
Over

5

WHIP (››pp.374–75) STRANDS TOGETHER TO FINISH

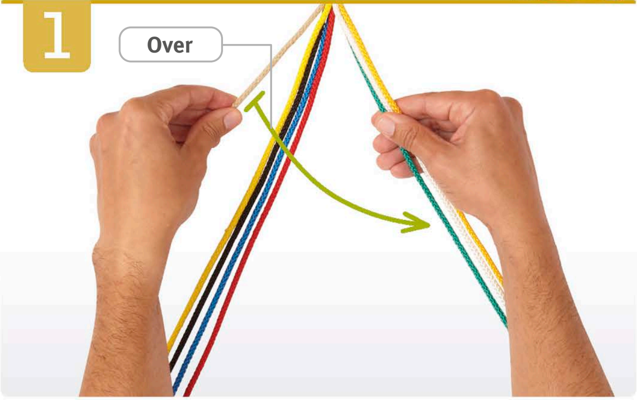


Eight-Strand Square Sennit



- A highly decorative sennit.
- Bind one end of the strands together (*see pp.374–75*) before starting.
- Move alternate outer strands to the middle of the plait.
- If you stop while tying, ensure that you start at the correct point in the sequence.

1



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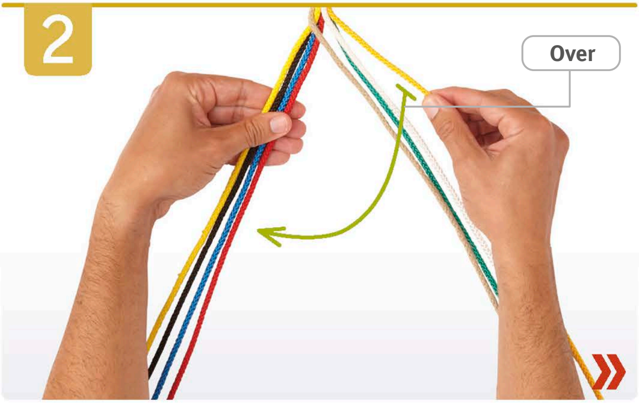
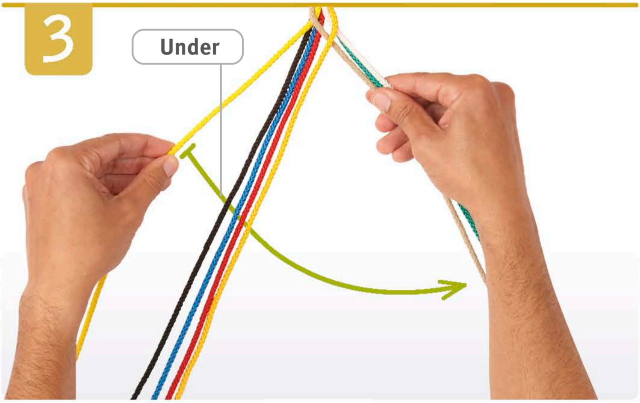


»

3



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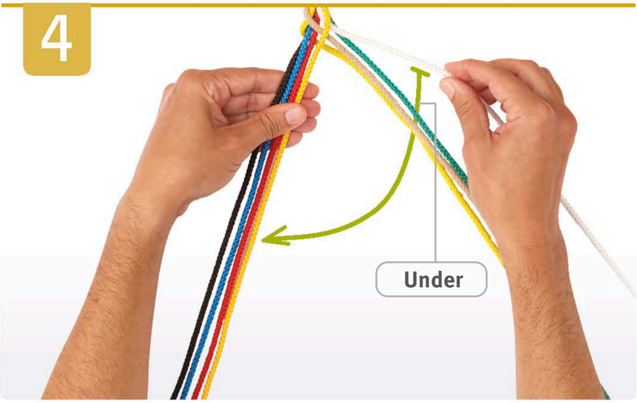

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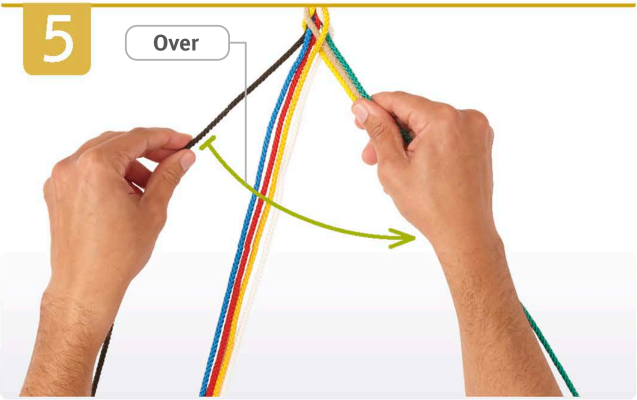

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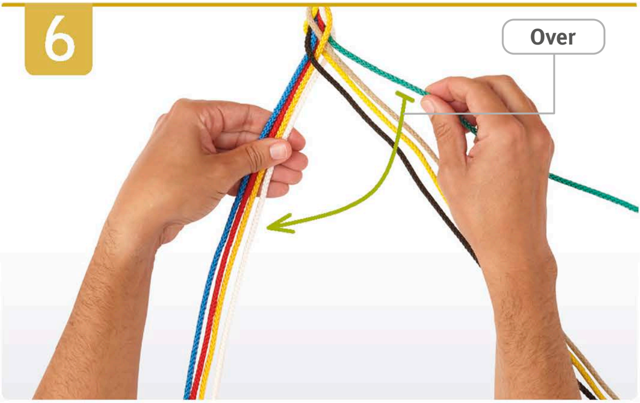

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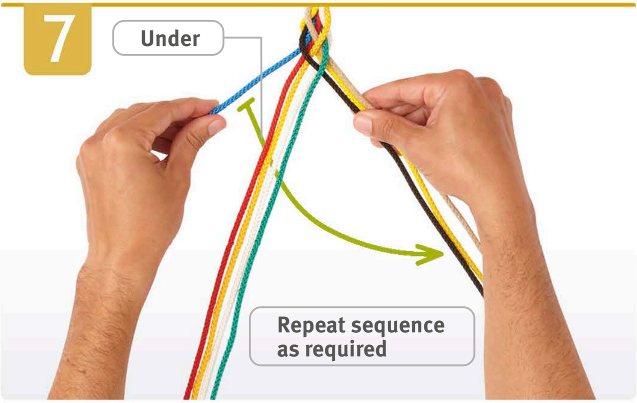
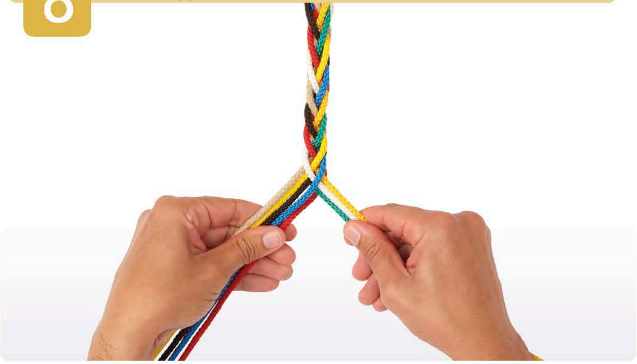


Repeat sequence as required

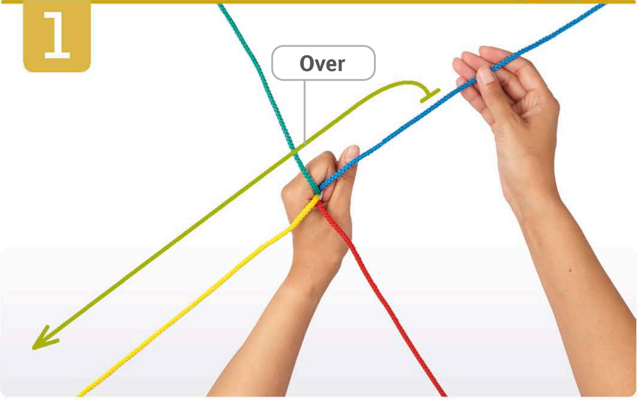
8 WHIP (»pp.374–75) STRANDS TOGETHER TO FINISH



Round Crown Sennit

- Used to convert lengths of line into an attractive, solid braid.
- Formed from a series of Crown Knots (*see pp.54–55*) tied one on top of another.
- Bind one end of the strands together (*see pp.374–75*) before starting.

1



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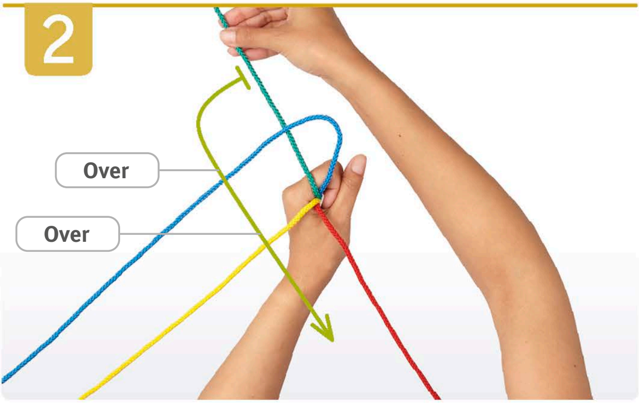

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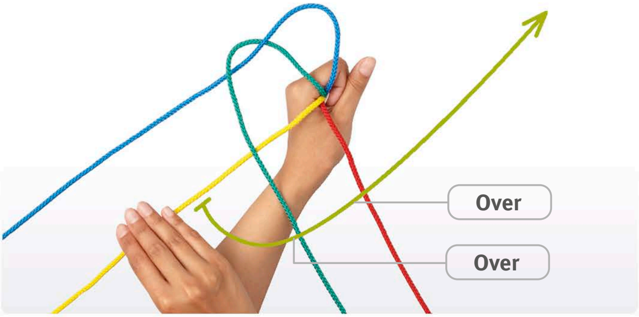

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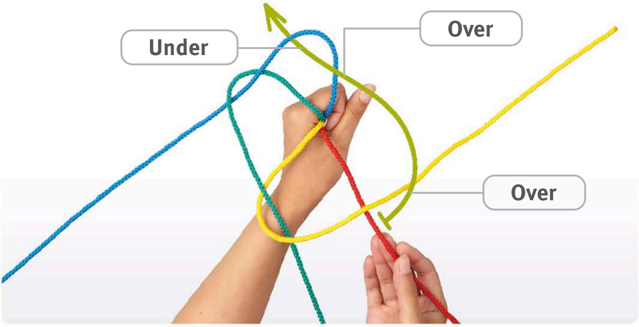
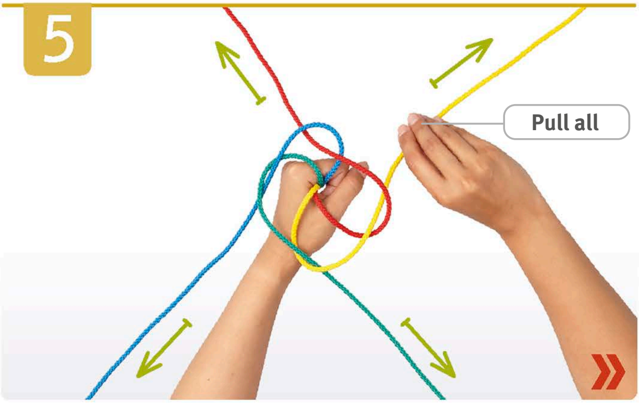

Under
Over
Over

5



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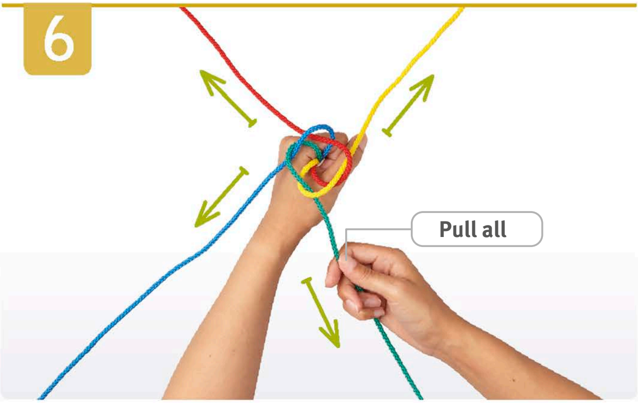

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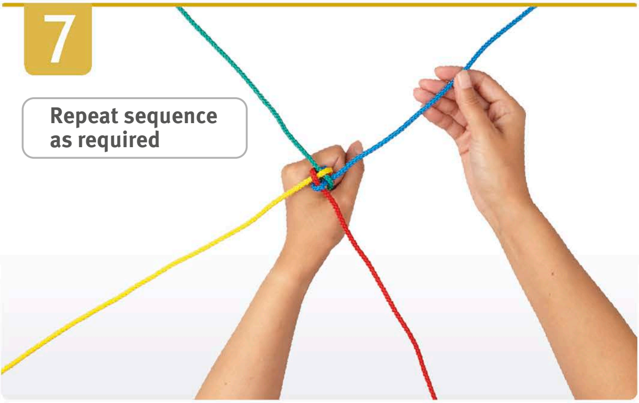
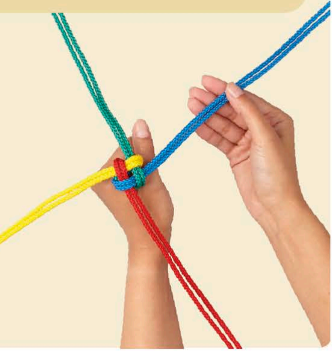

Repeat sequence as required

Round Crown Sennit – Four Pairs

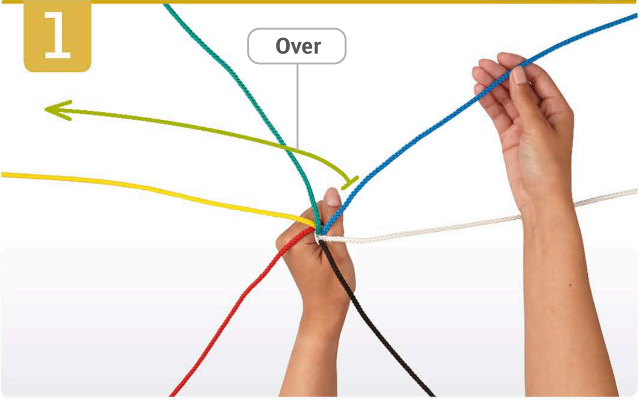
- Uses pairs of line instead of single strands to make a bulkier sennit.
- Follows the same pattern as the Round Crown Sennit (*see pp.324–26*).



Six-Strand Round Crowning

- Used to form a cylindrical tube from a sennit.
- Made by tying a series of Crown Knots (*see pp.54–55*).
- Bind one end of the strands together (*see pp.374–75*) before starting.
- Not suitable for use in large-diameter rope.

1



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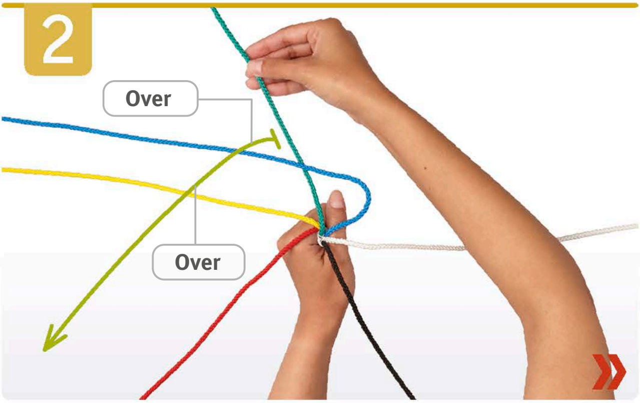

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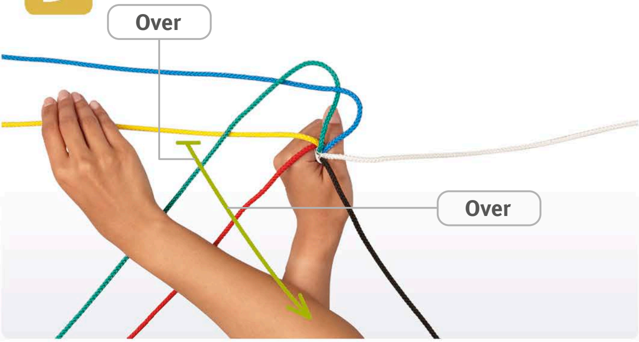

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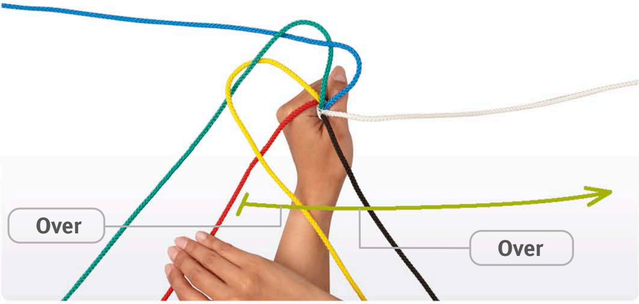

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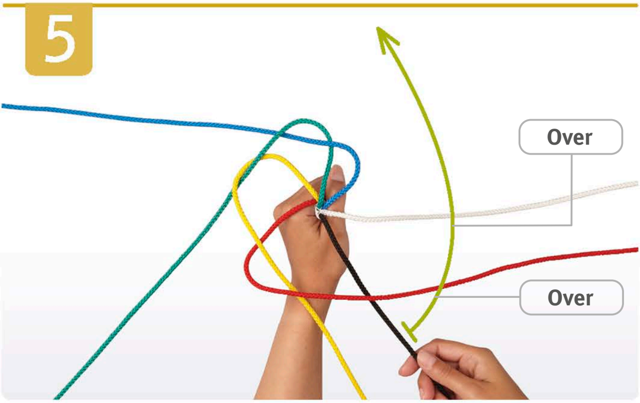

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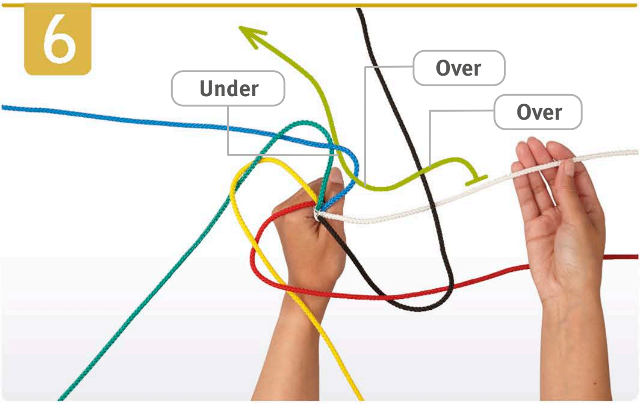
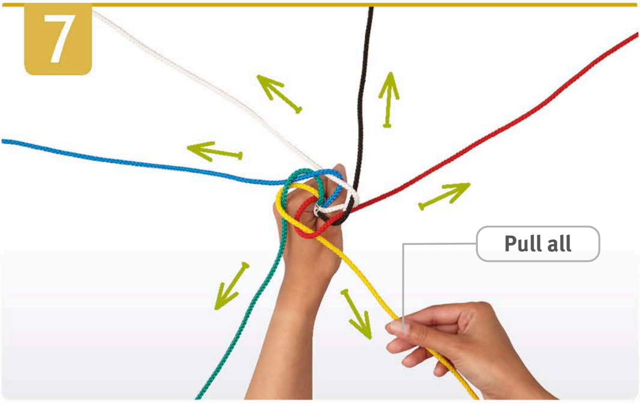

Under
Over
Over

7



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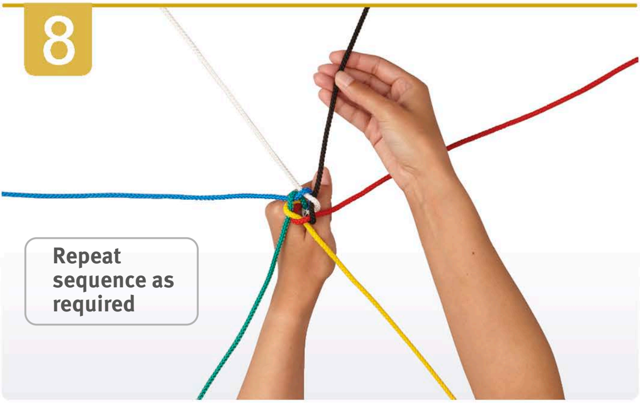
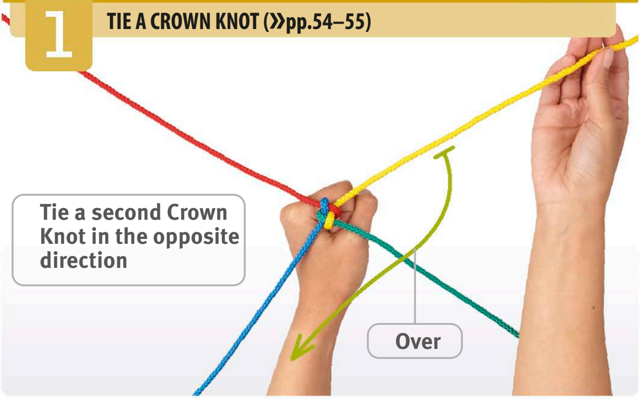


Repeat sequence as required

Square Crown Sennit

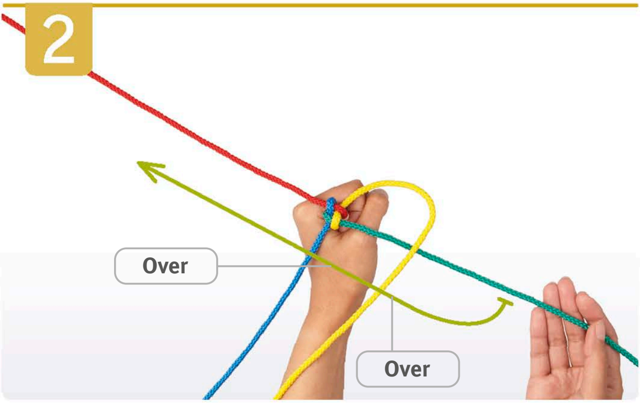
- A decorative knot used in cords and bracelets.
- Formed from Crown Knots (*see pp.54–55*) tied in alternate directions.
- Bind one end of the strands together (*see pp.374–75*) before starting.
- Tighten each Crown Knot before moving to the next stage.

1 TIE A CROWN KNOT (»pp.54–55)



Tie a second Crown Knot in the opposite direction

2



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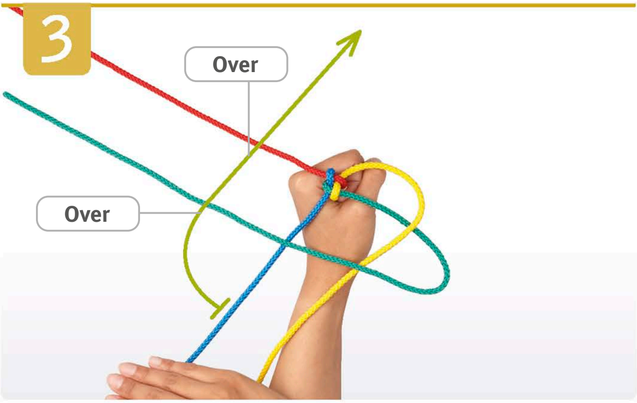

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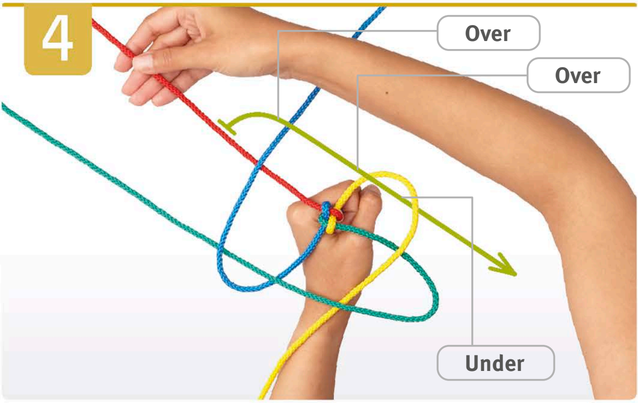
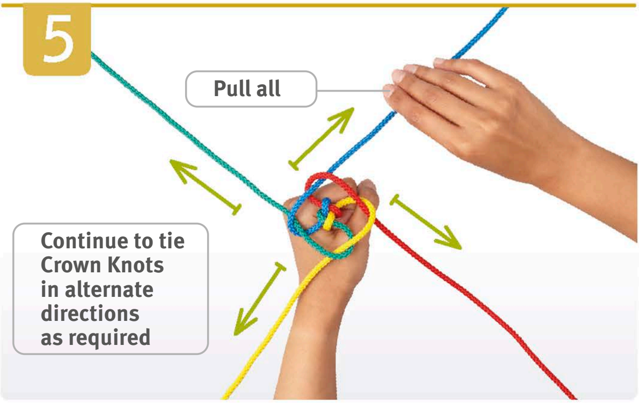

Over
Over
Under

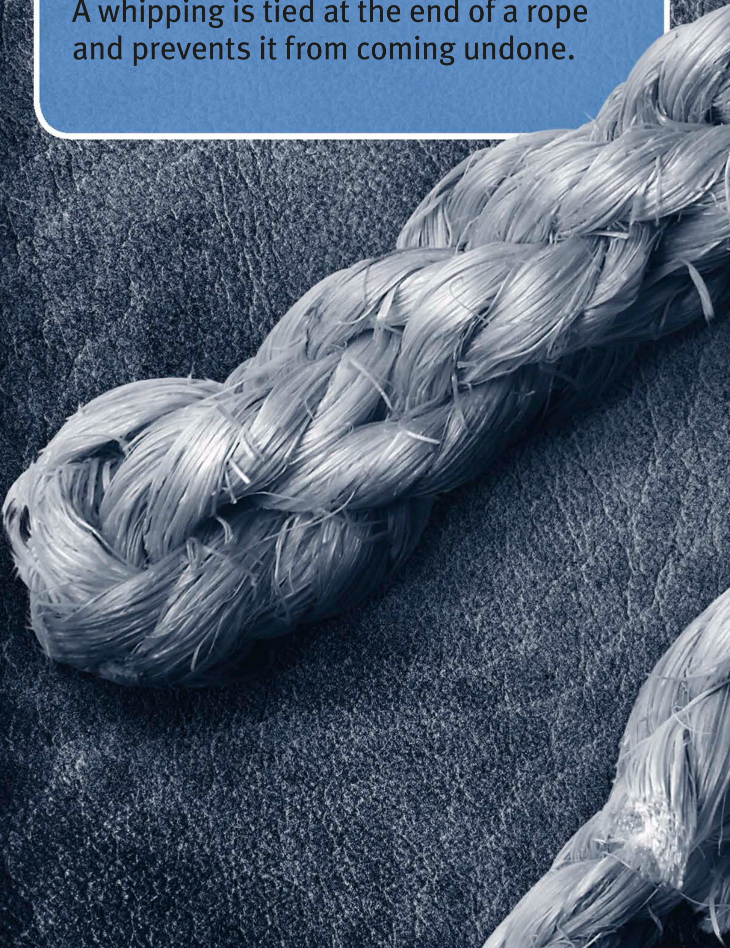
5



Continue to tie Crown Knots in alternate directions as required

Splices and Whippings

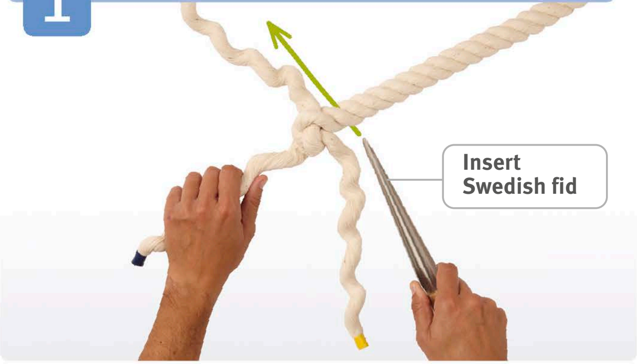
A splice is a permanent way of finishing a rope using its strands or of joining together two ropes of equal width. A whipping is tied at the end of a rope and prevents it from coming undone.



Back Splice

- Used as a permanent finish to the end of a rope.
- Increases the diameter of a rope end by one-third.
- Before you start tie a Crown Knot (*see pp.54–55*) with the strands, leaving long strand ends.
- Whip (*see pp.374–75*) or tape the working ends to make the strands easier to tuck.

1 TIE A CROWN KNOT (»pp.54–55)



Insert Swedish fid

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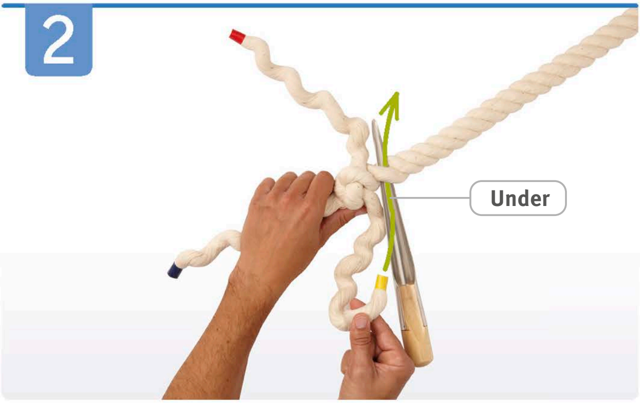
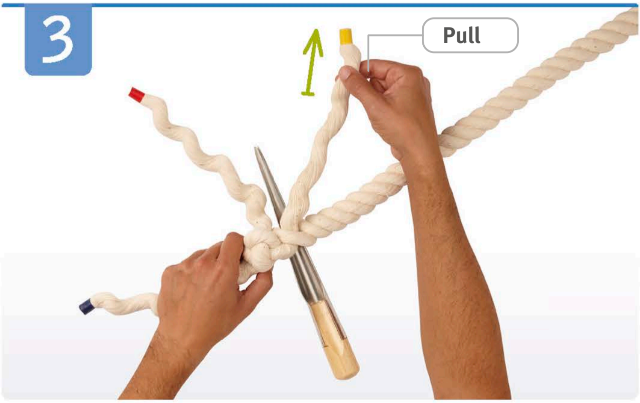


Under

3



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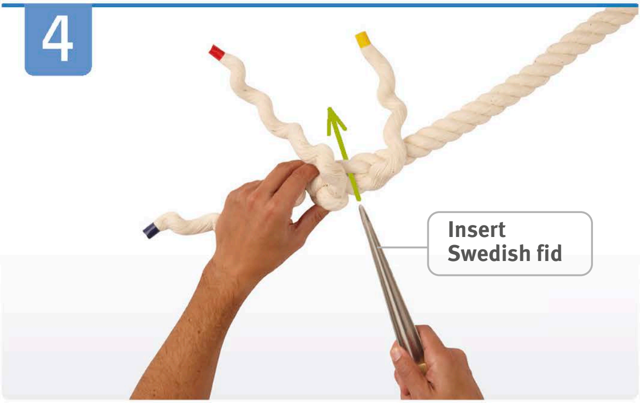
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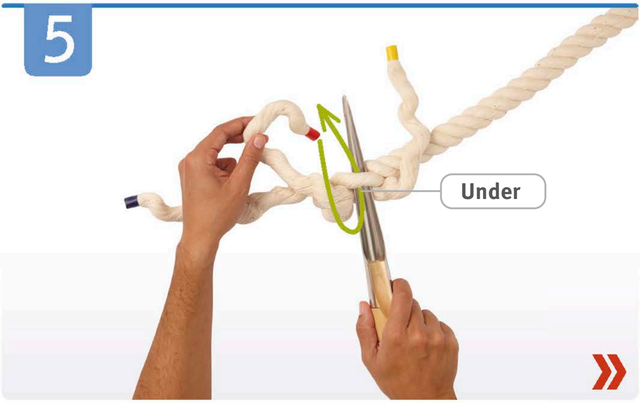

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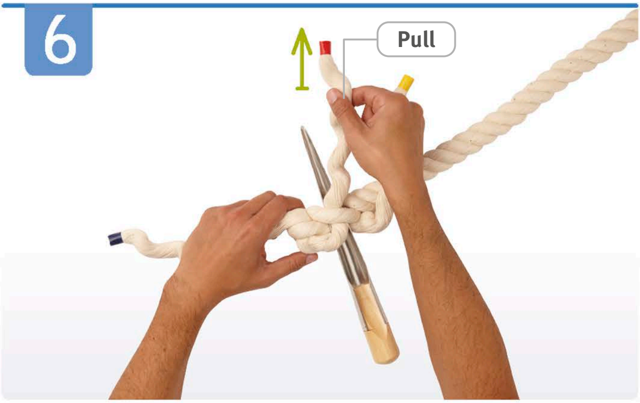

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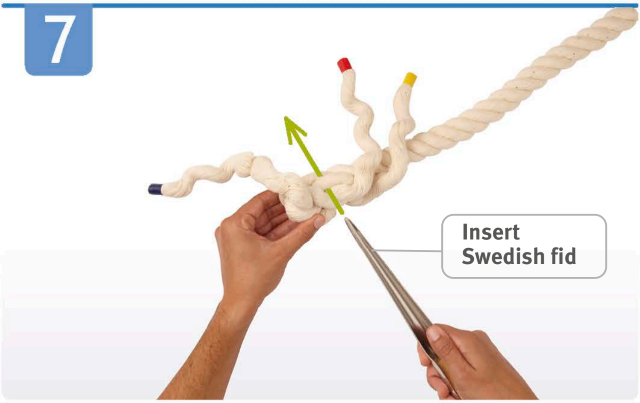
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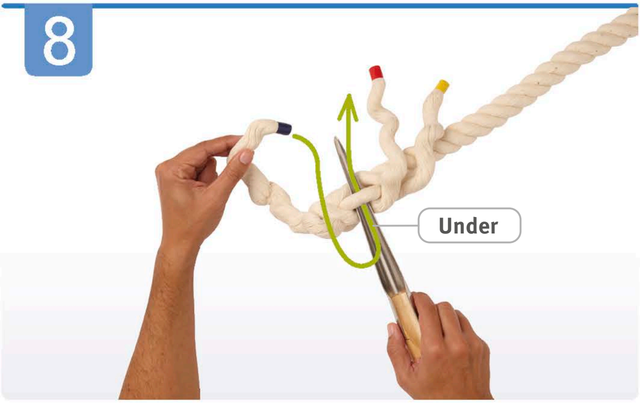

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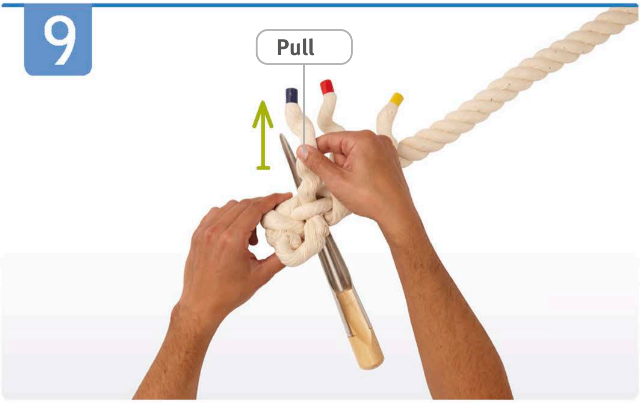

Pull

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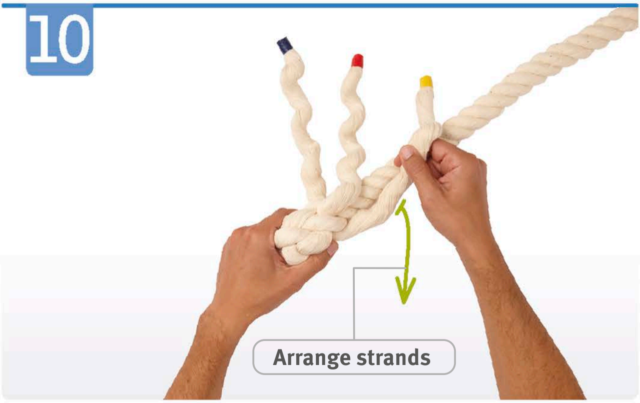
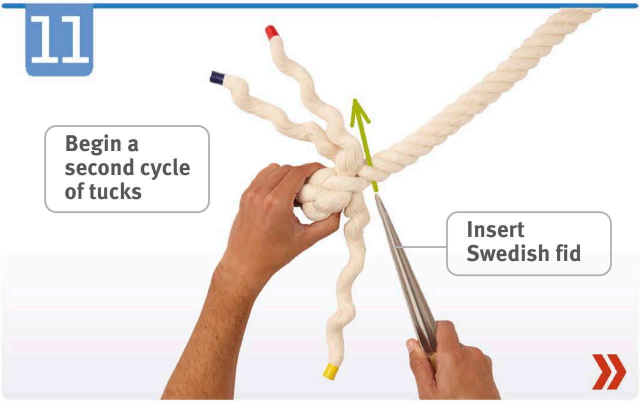


Arrange strands

11

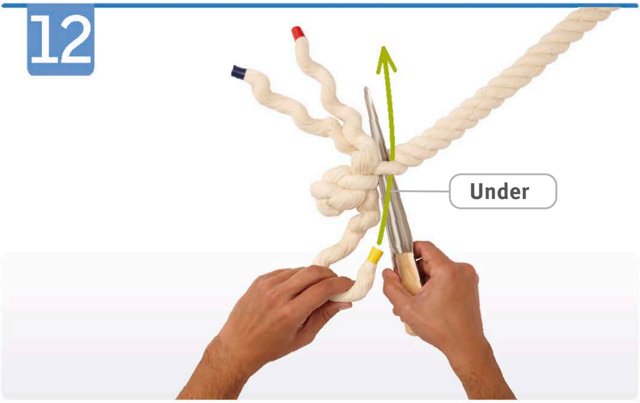


Begin a second cycle of tucks

Insert Swedish fid

»

12



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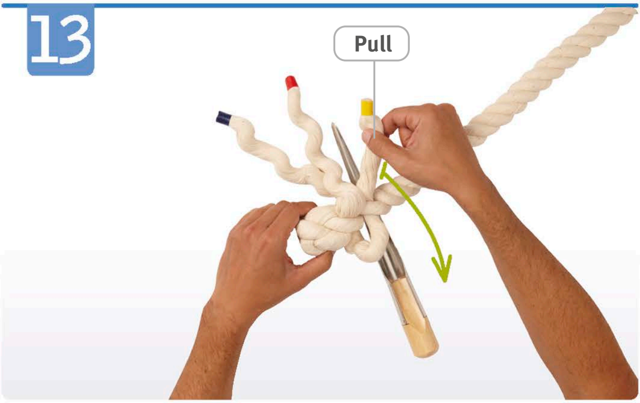

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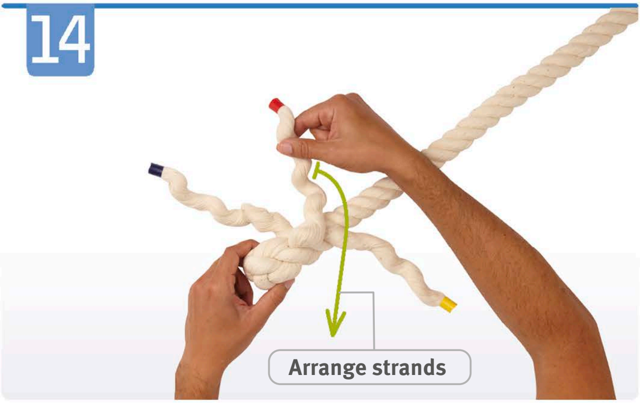
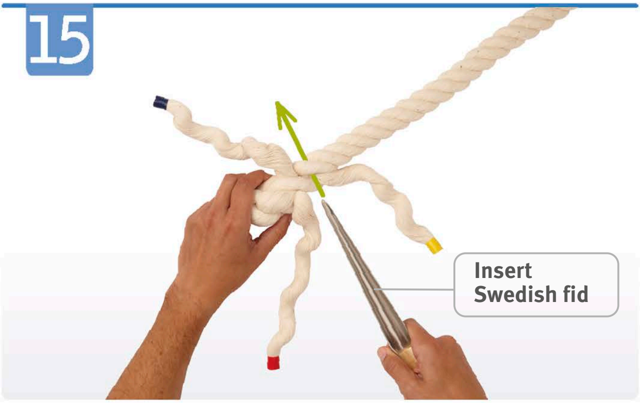
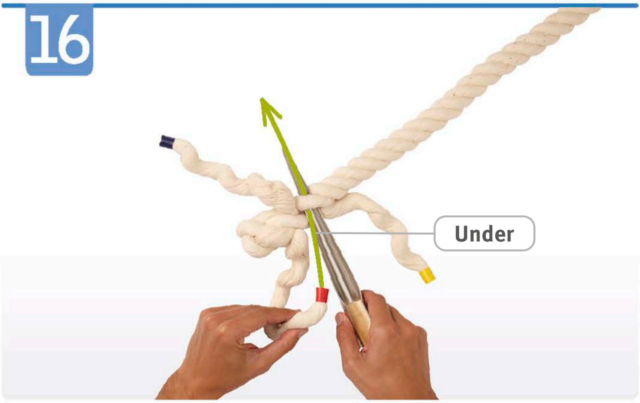

Arrange strands

15



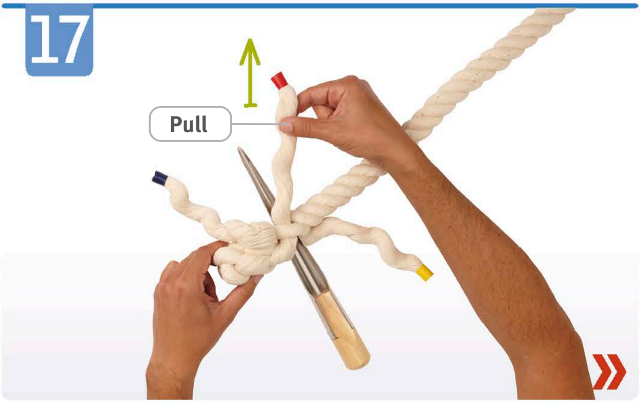
Insert Swedish fid

16



Under

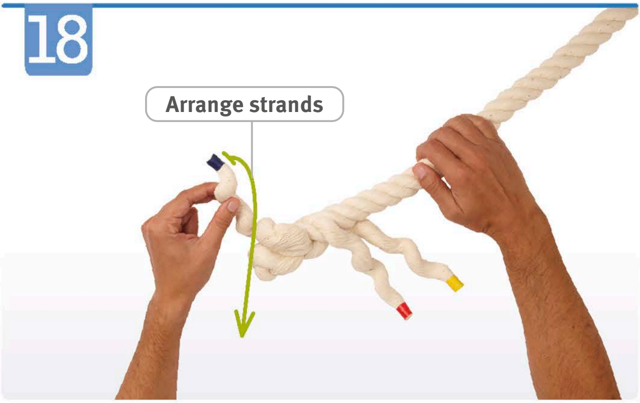
17



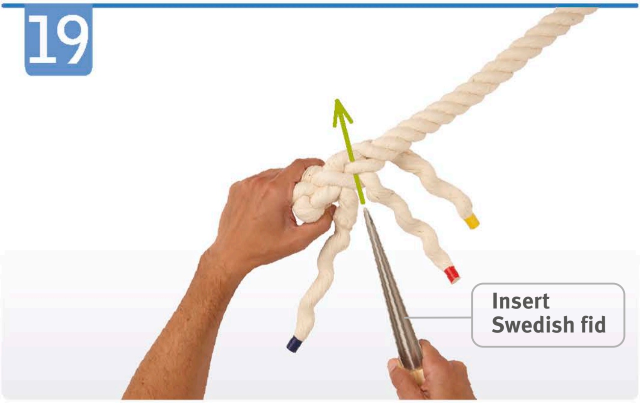
Pull

»

18


Arrange strands

19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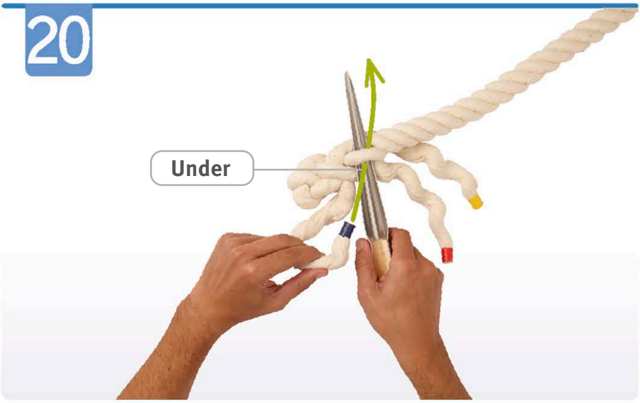
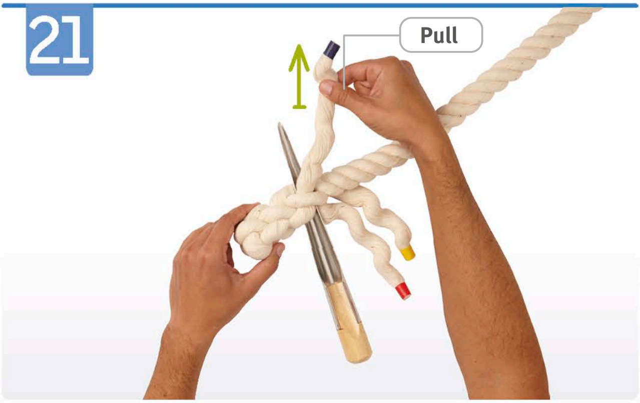

Under

21



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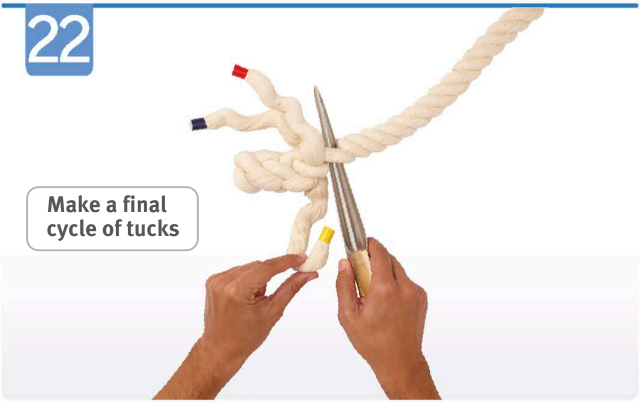
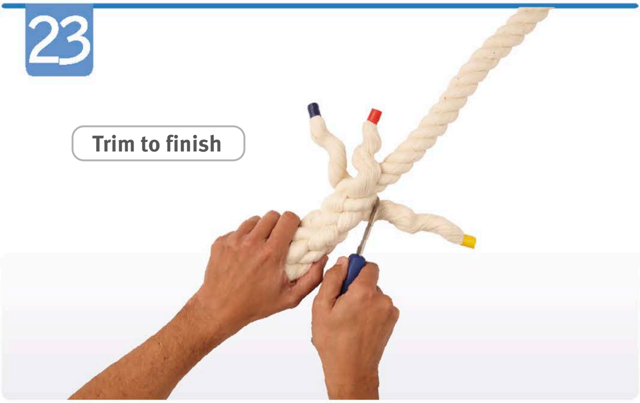

Make a final cycle of tucks

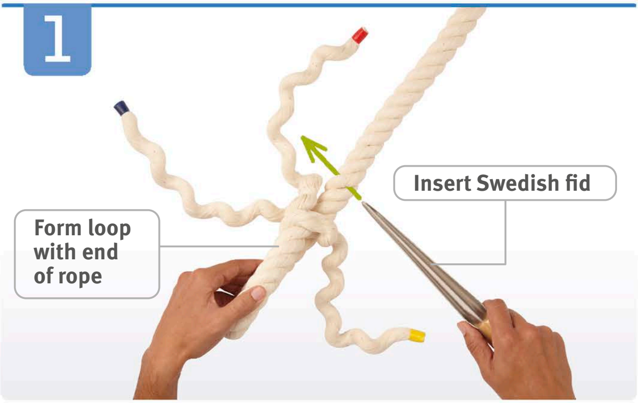
23


Trim to finish

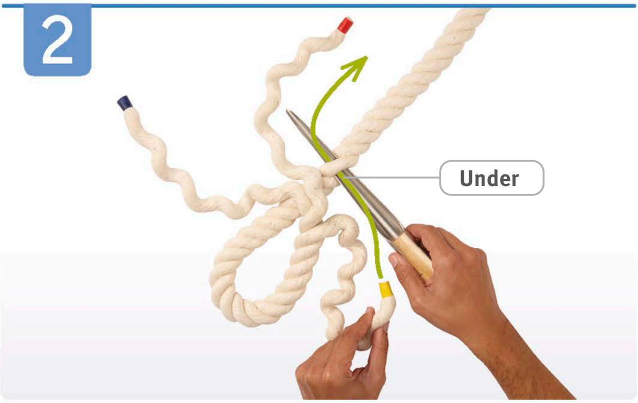
Eye Splice

- Forms a permanent loop at the end of a three-strand rope.
- Ensure a tight start to the splice.
- Make a minimum of three full tucks for a natural fibre rope and five tucks for synthetic rope, as it is more slippery.

1


Insert Swedish fid
Form loop with end of rope

2



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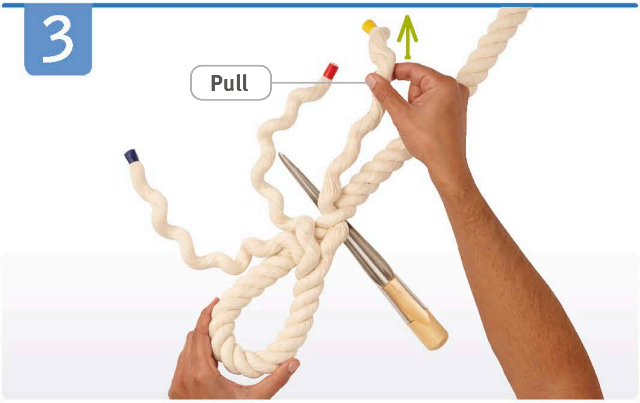

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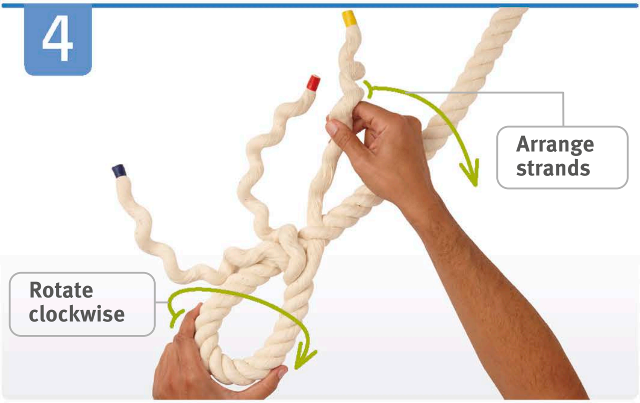
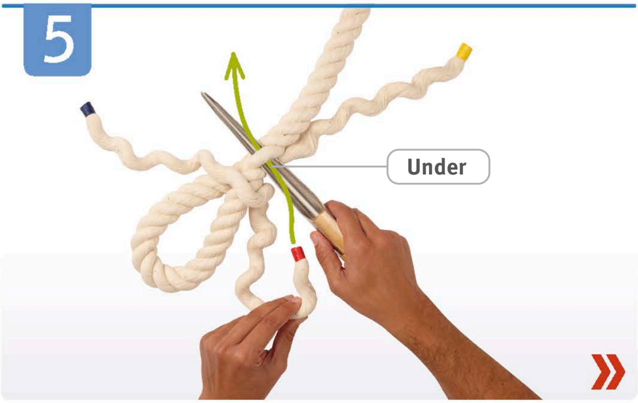

Arrange strands
Rotate clockwise

5



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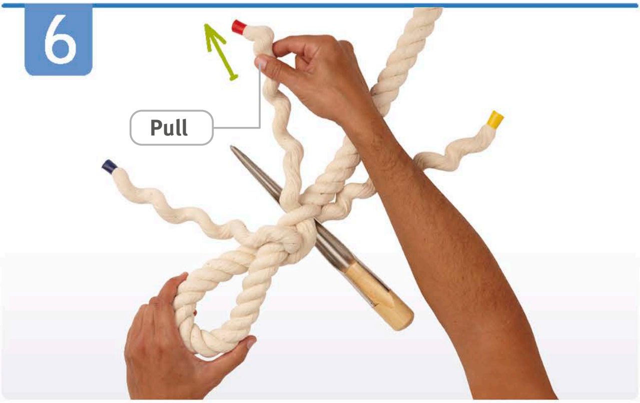

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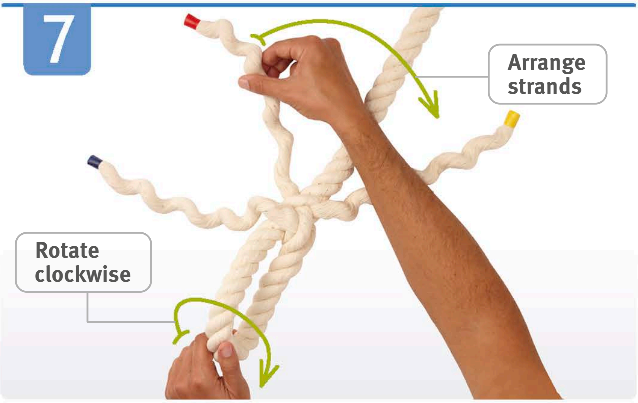
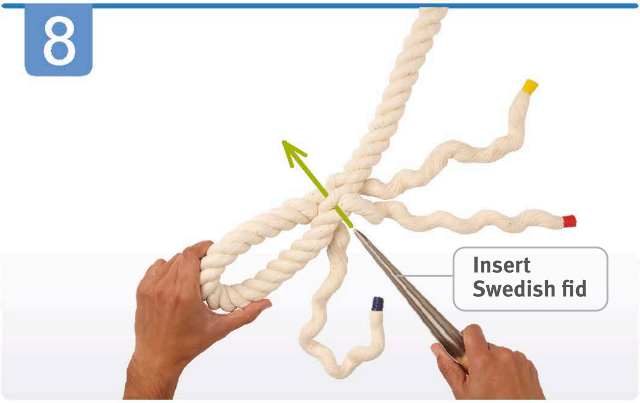

Arrange strands
Rotate clockwise

8


Insert Swedish fid

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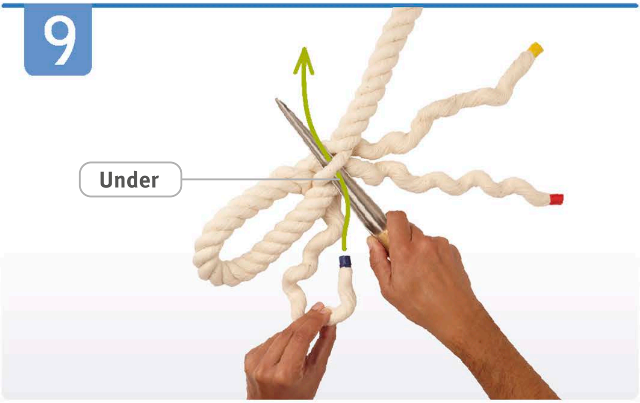

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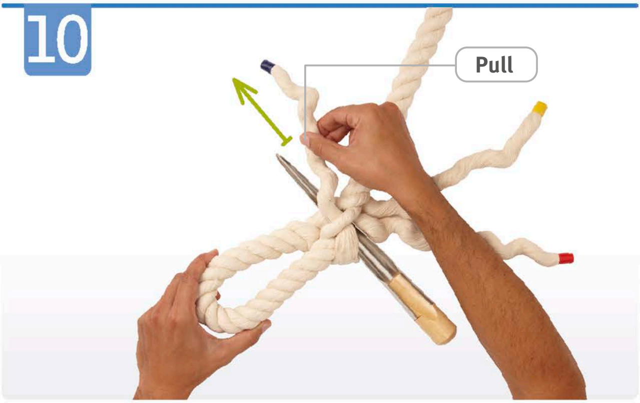

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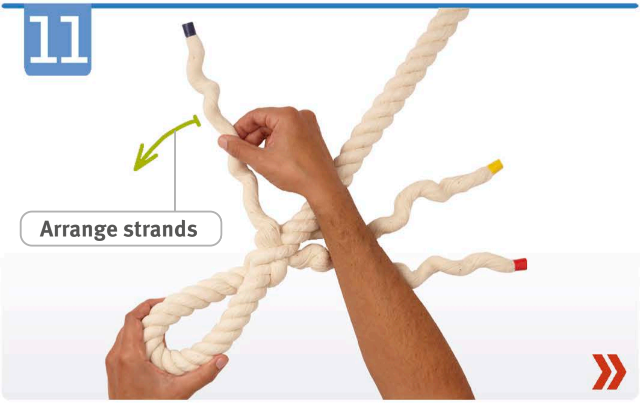
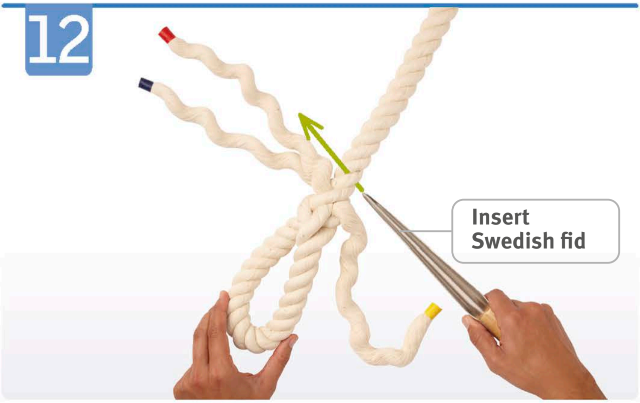

Arrange strands

»

12



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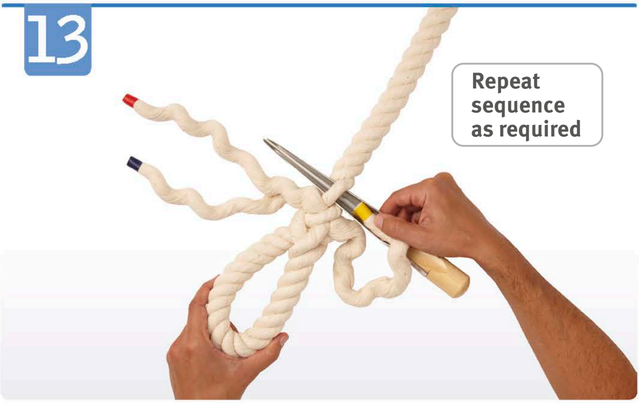
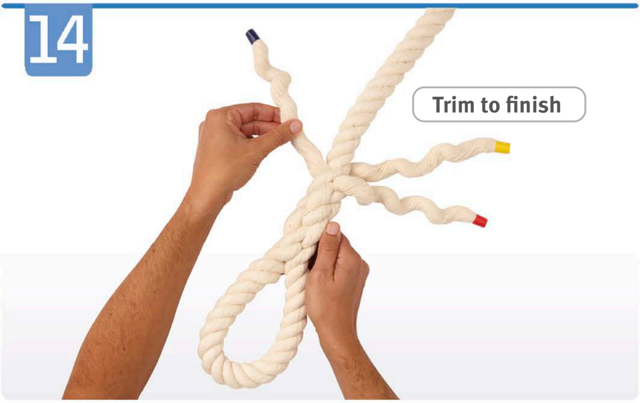


Repeat sequence as required

14

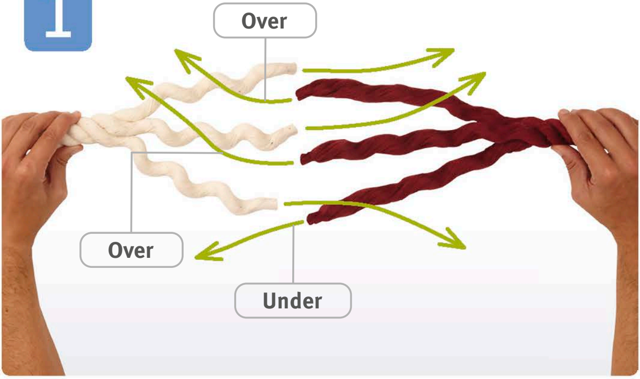


Trim to finish

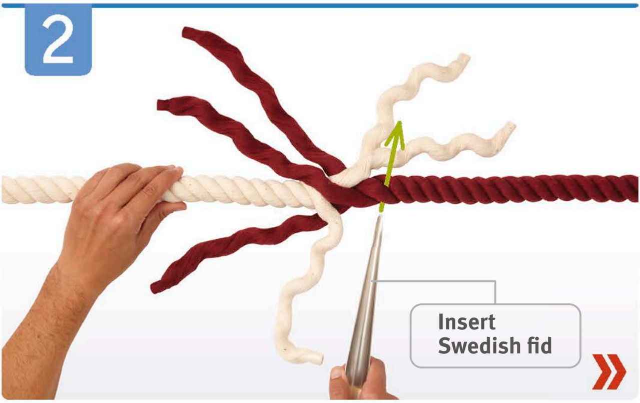
Short Splice

- A method for permanently joining two ropes of equal thickness.
- Produces a thicker rope.
- May be tapered (*see pp.364–69*) if desired.
- Use a fid or Swedish fid (*see p.19*) to make it easier to separate the strands.
- Make three cycles of tucks each way for natural rope and five for synthetic.

1

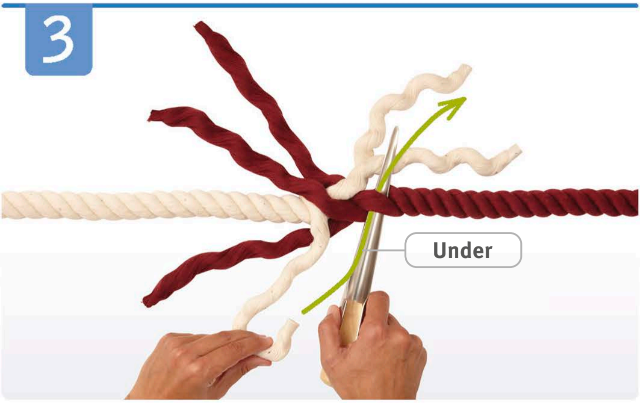

Over
Over
Under

2


Insert Swedish fid

»

3



Under

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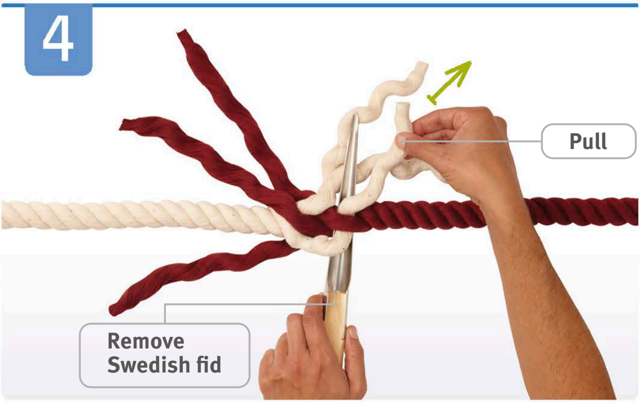
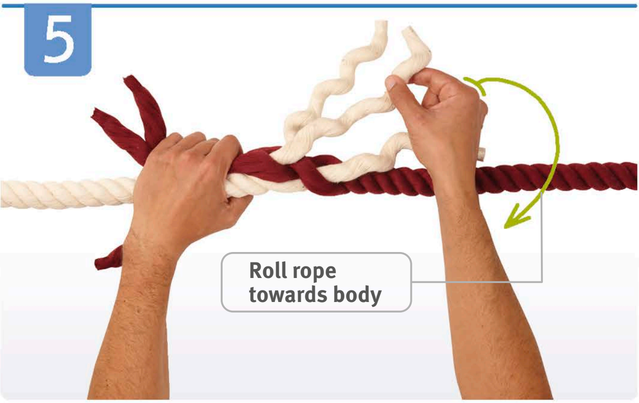


Pull

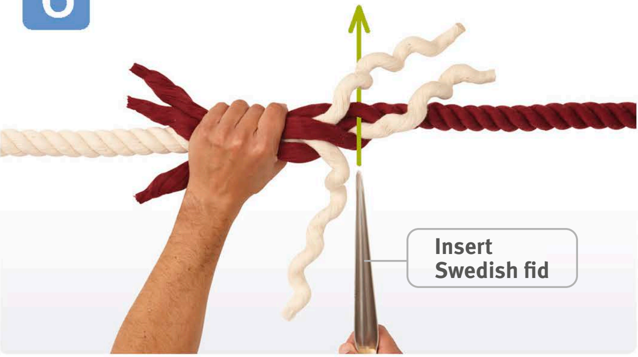
Remove Swedish fid

5



Roll rope towards body

6


Insert Swedish fid

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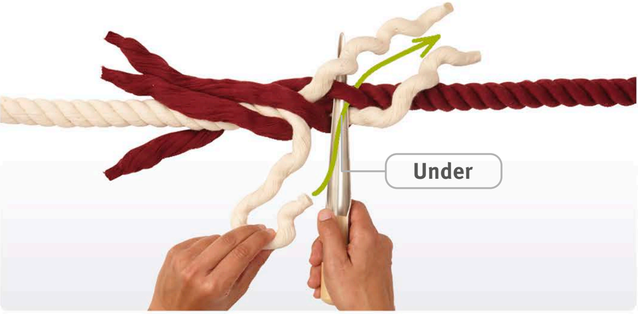

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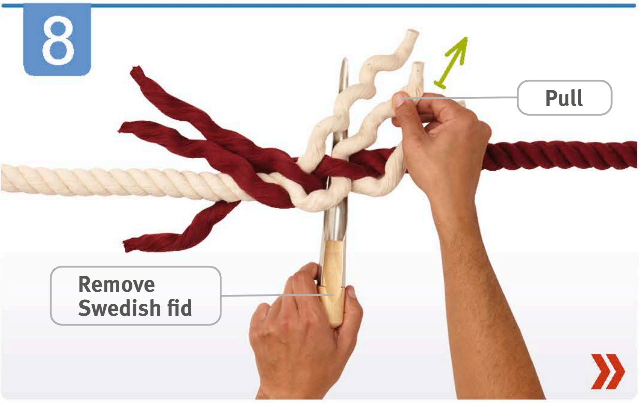
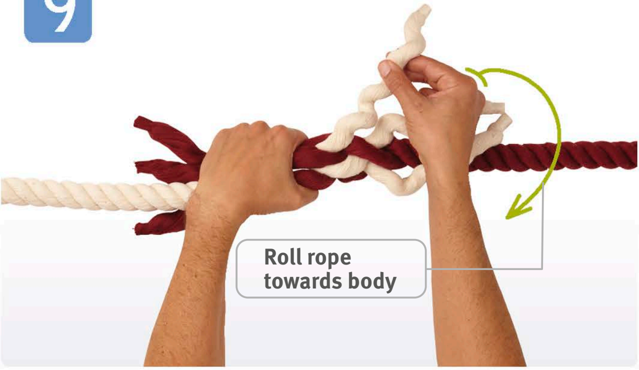

Pull
Remove Swedish fid

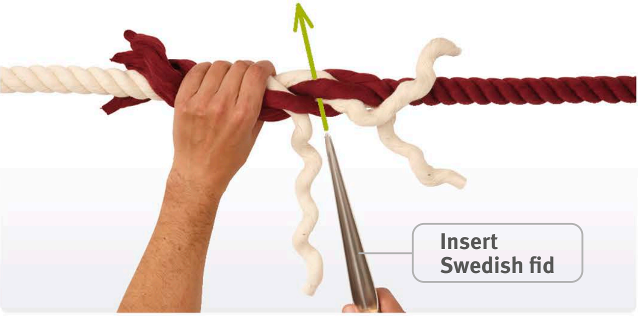
»

9



Roll rope towards body

10



Insert Swedish fid

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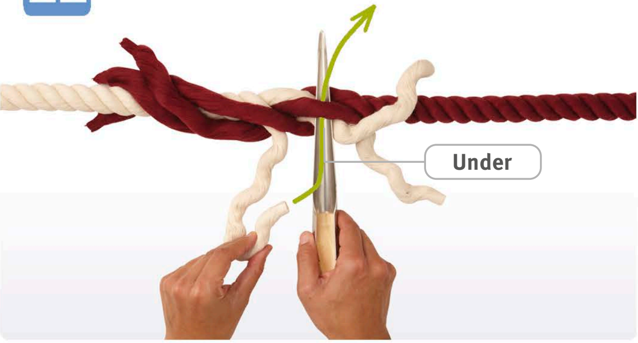

Under

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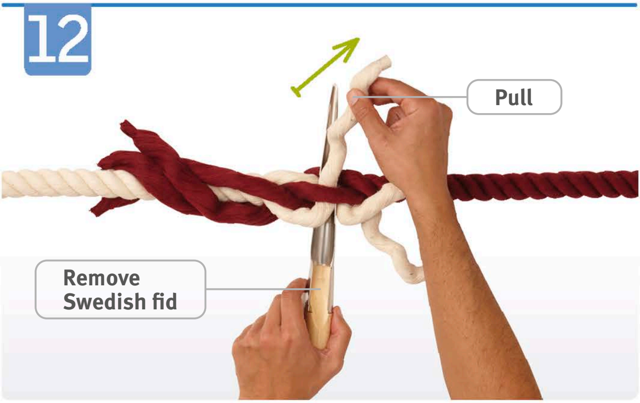
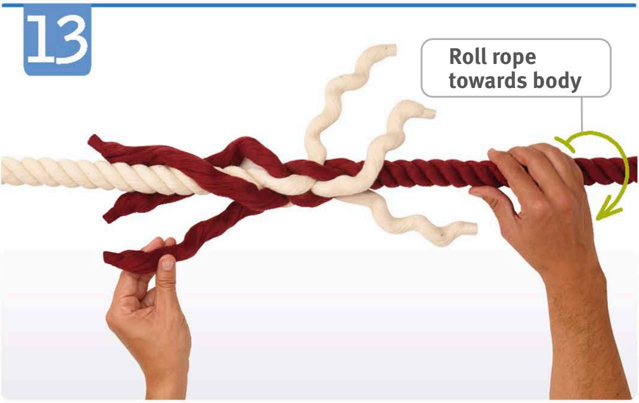
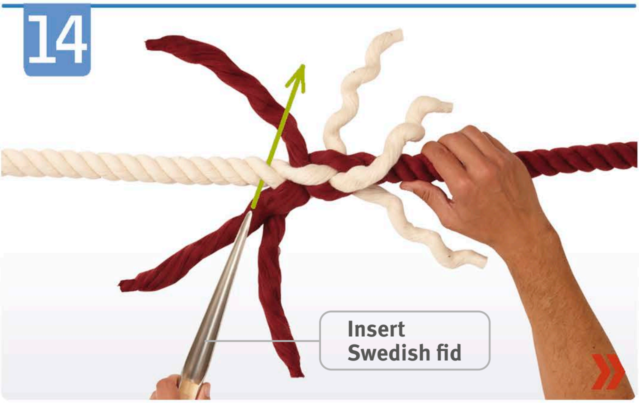

Pull
Remove
Swedish fid

13


Roll rope
towards body

14


Insert
Swedish fid

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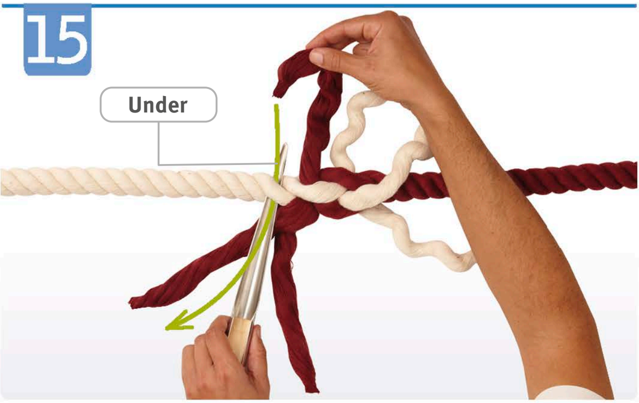

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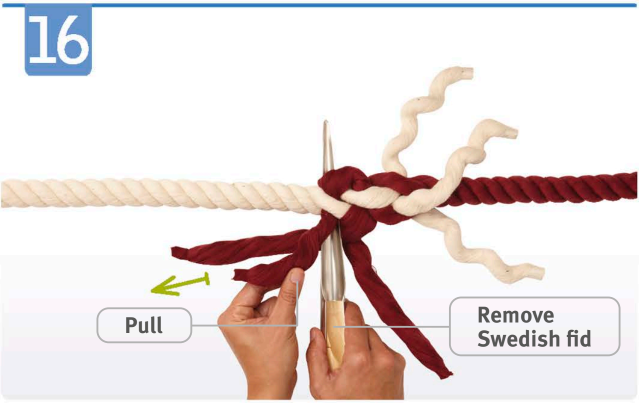
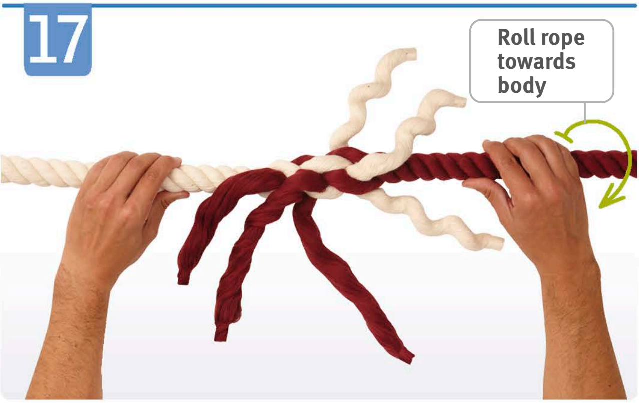
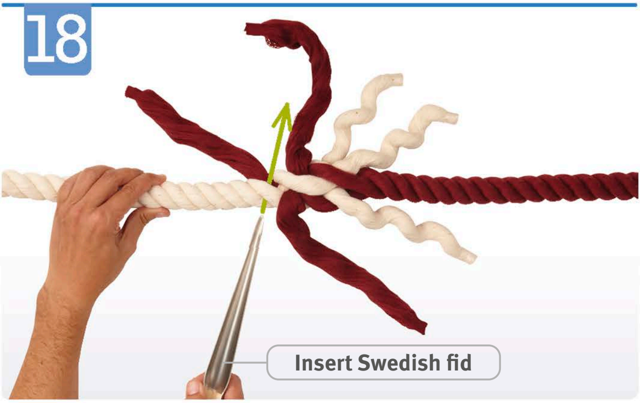

Pull
Remove Swedish fid

17


Roll rope towards body

18



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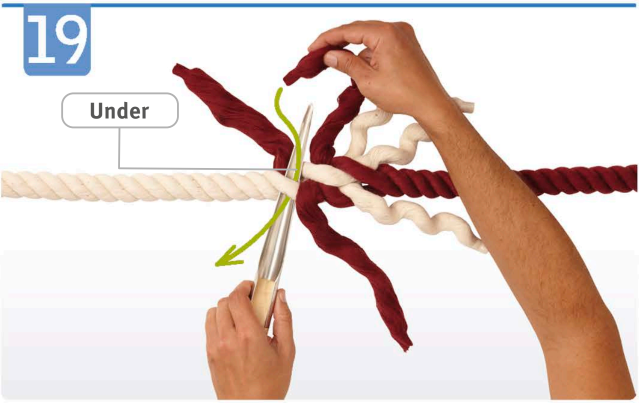
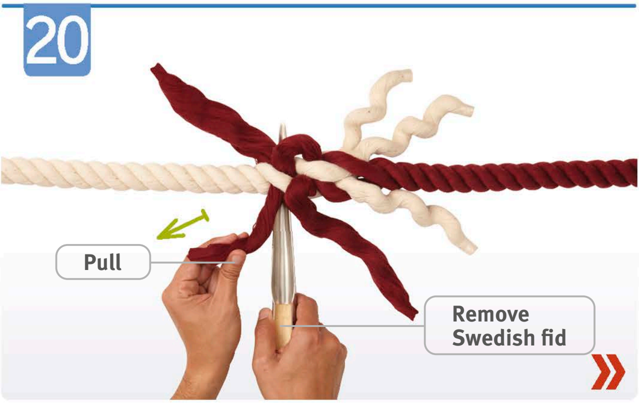


Under

20



Pull

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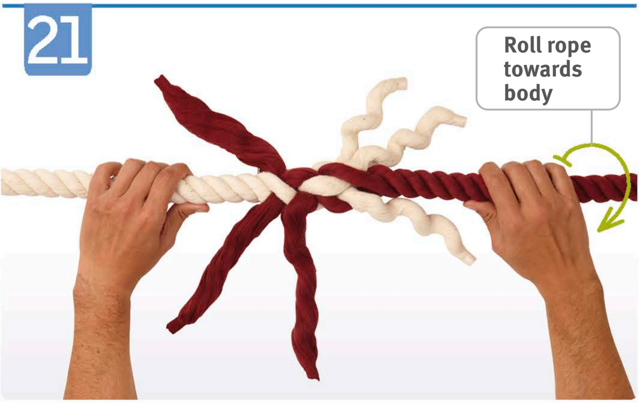
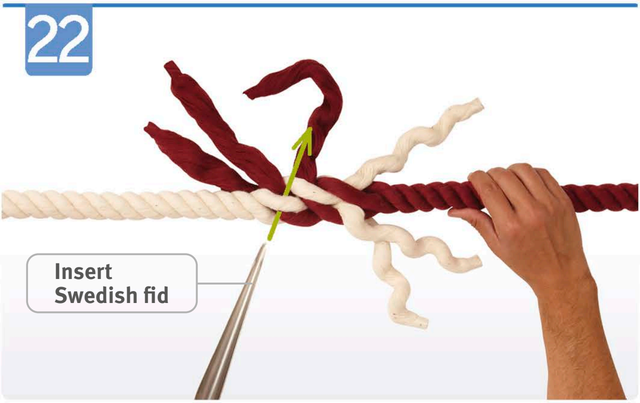

Roll rope towards body

22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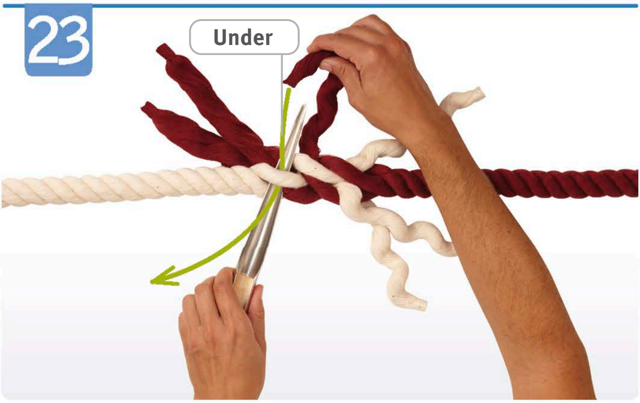

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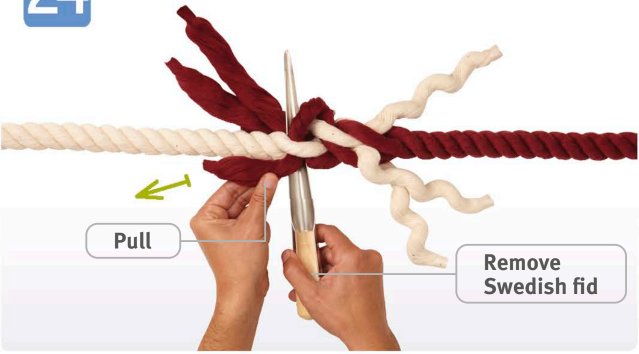
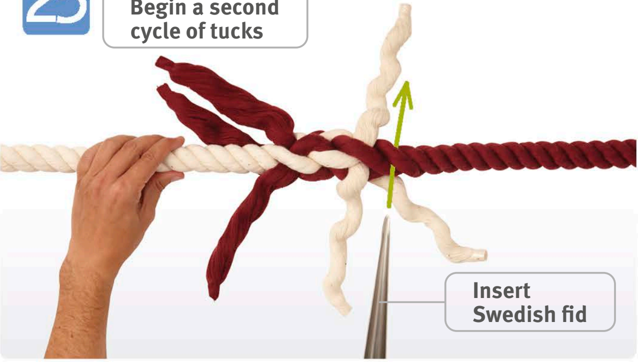
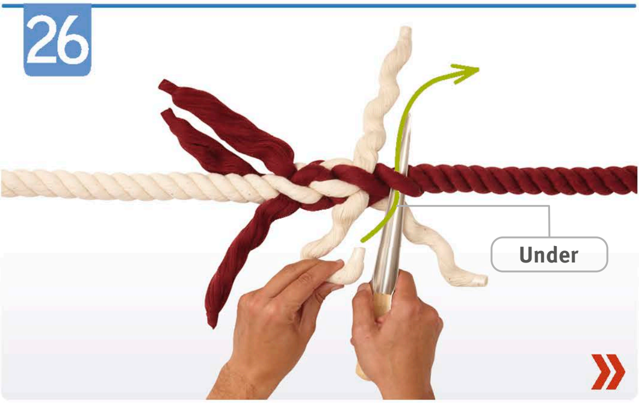

Pull
Remove Swedish fid

25

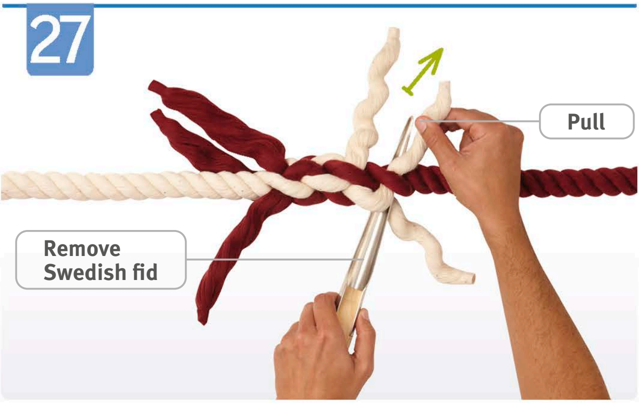

Begin a second cycle of tucks
Insert Swedish fid

26

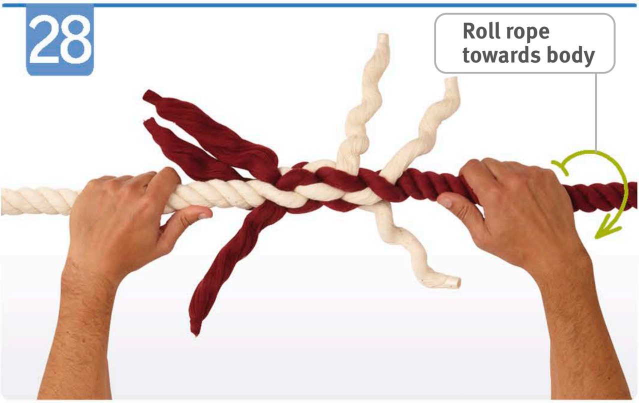

Under

»

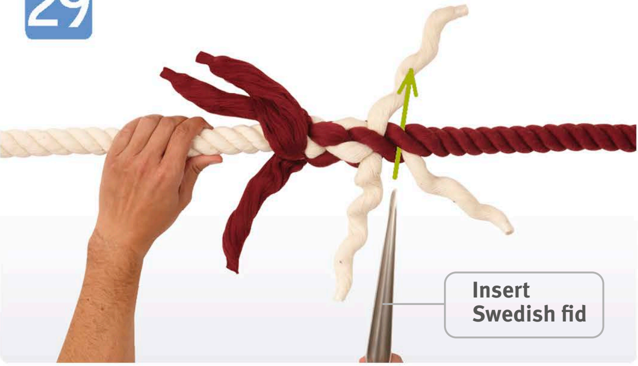
27


Pull
Remove Swedish fid

28


Roll rope towards body

29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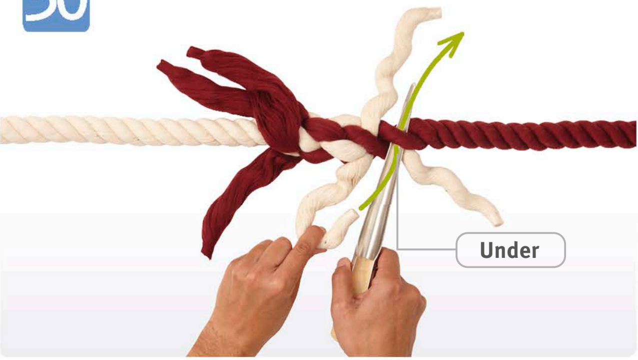

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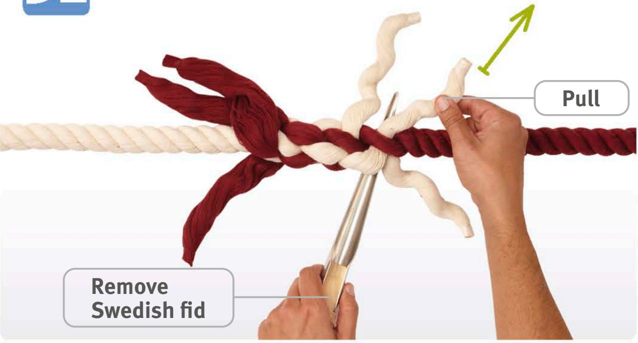
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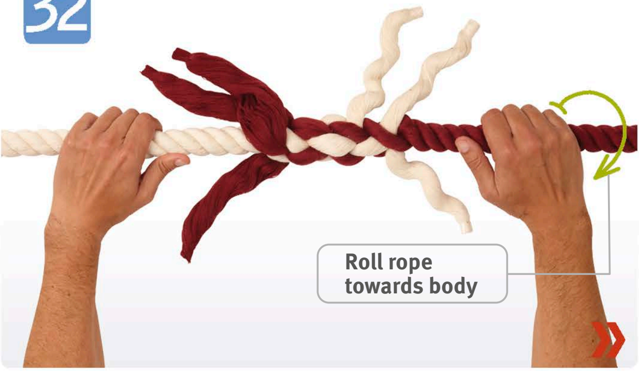
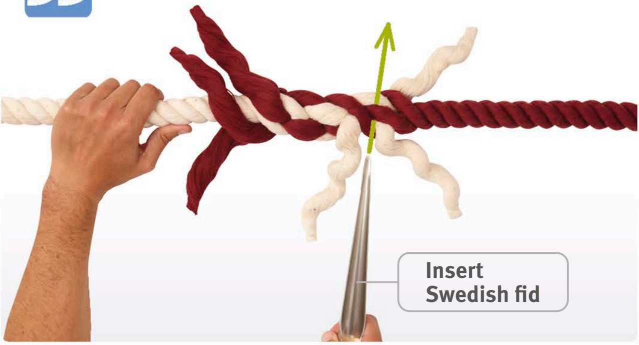

Roll rope towards body

33


Insert
Swedish fid

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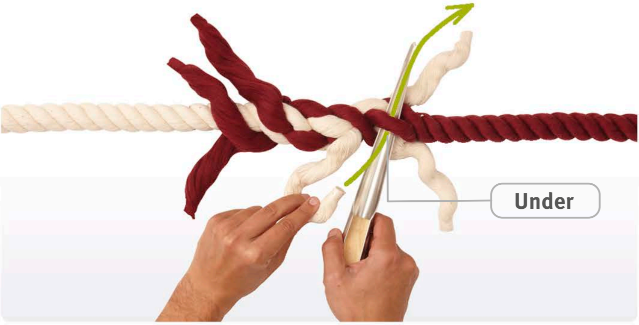

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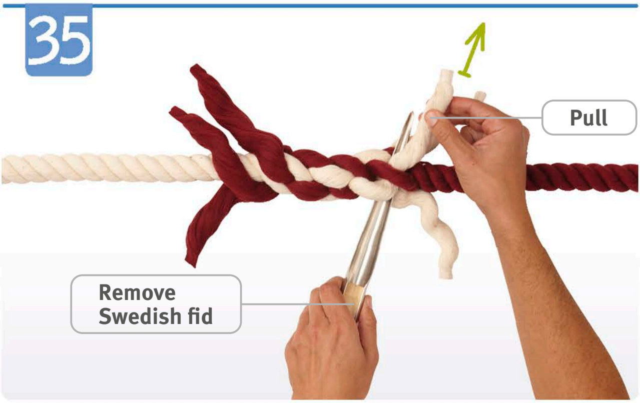
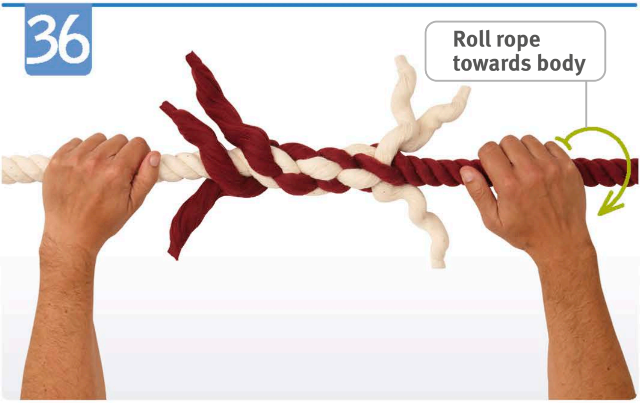
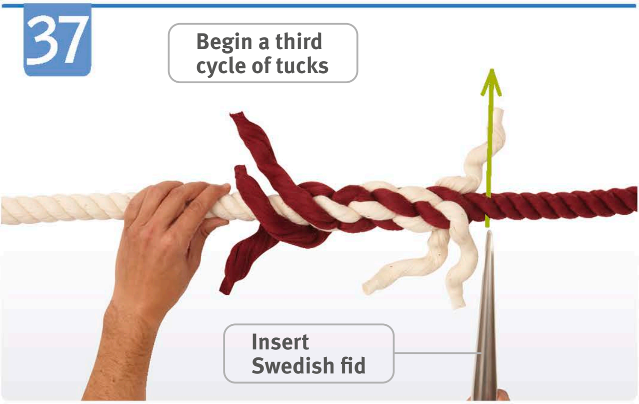

Pull
Remove
Swedish fid

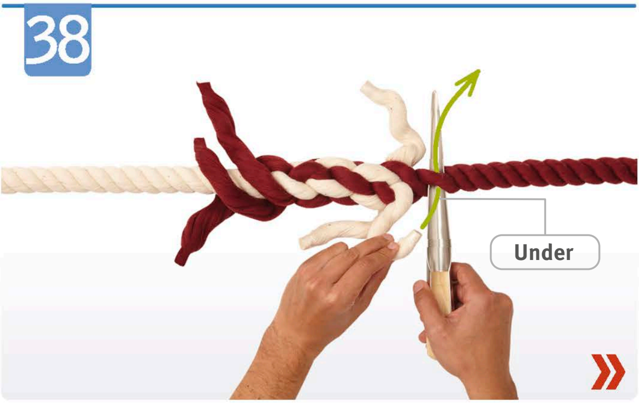
36


Roll rope towards body

37


Begin a third cycle of tucks
Insert Swedish fid

38


Under

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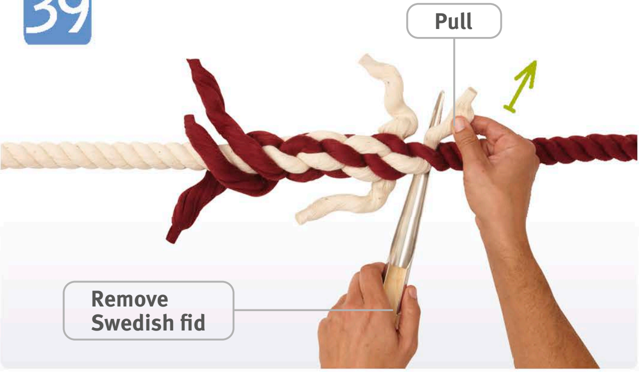
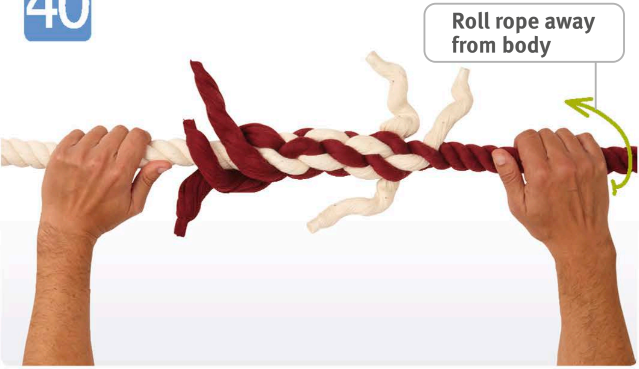
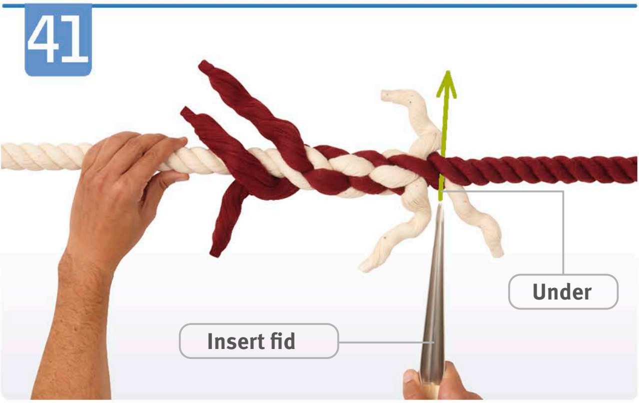

Pull
Remove Swedish fid

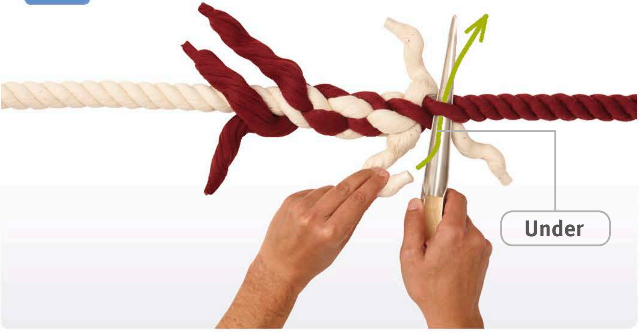
40


Roll rope away from body

41


Under
Insert fid

42



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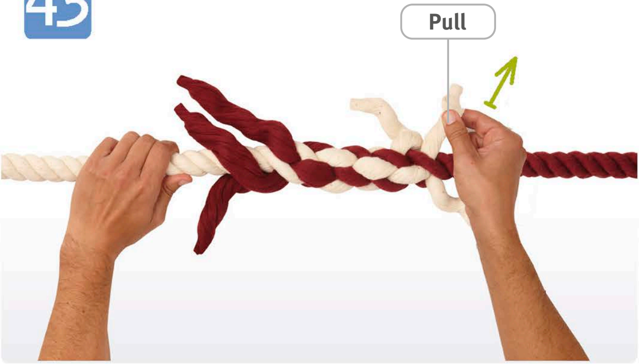

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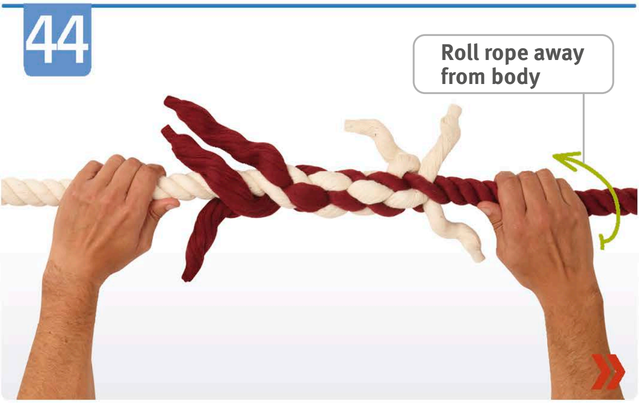
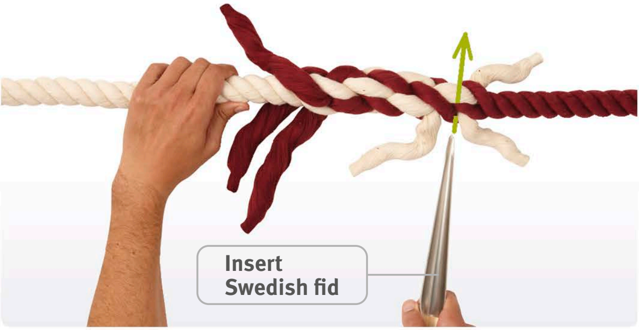

Roll rope away from body

45



Insert Swedish fid

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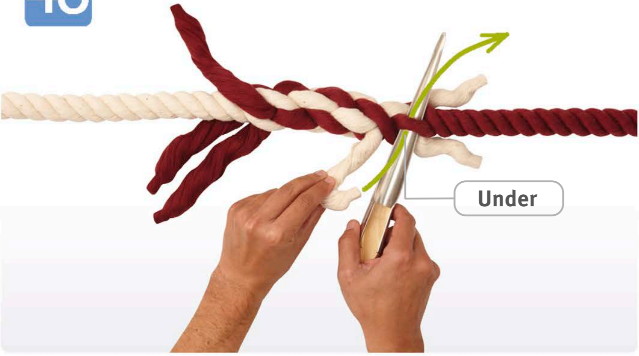
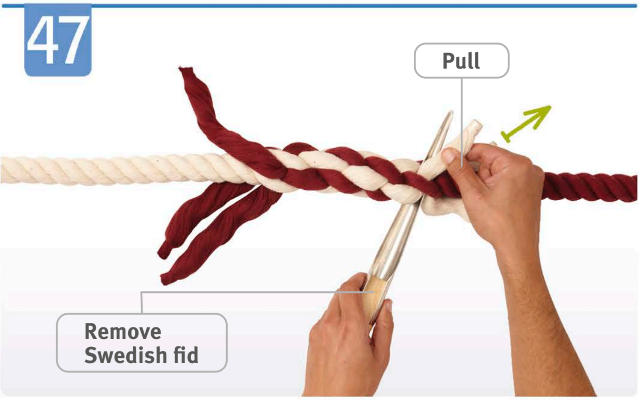


Under

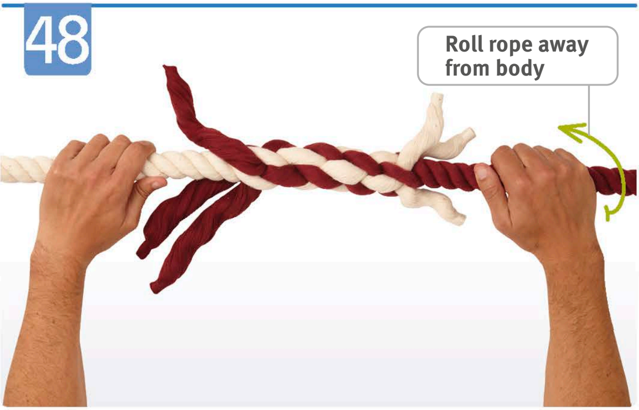
47



Pull

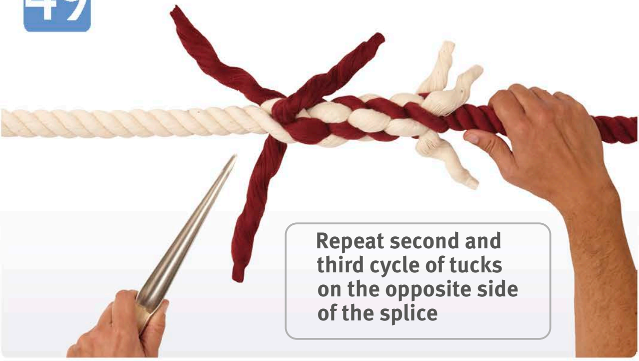
Remove Swedish fid

48



Roll rope away from body

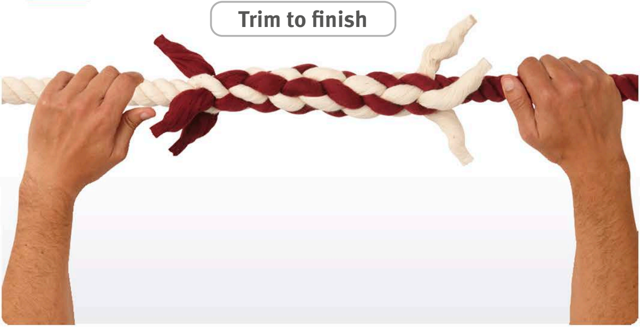
49



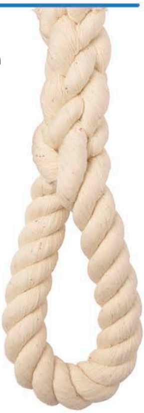
Repeat second and third cycle of tucks on the opposite side of the splice

50

Trim to finish

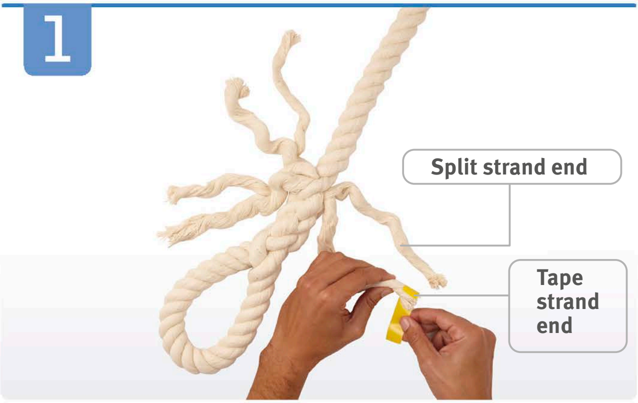


Tapering a Splice

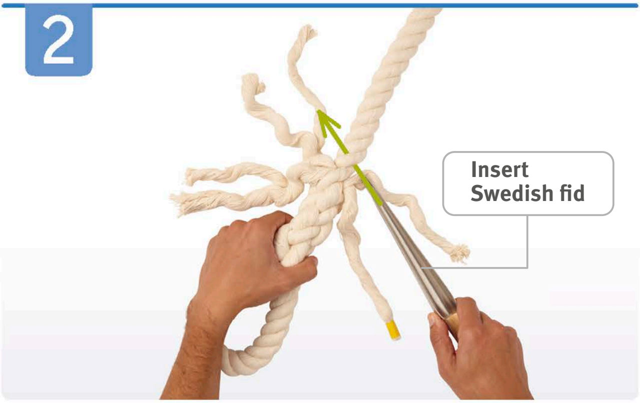


- Used to taper the ends of a spliced (*see pp.334–63*) three-strand rope to prevent it from working loose.
- Can be used to strengthen and neaten all splices.

1


Split strand end
Tape strand end

2


Insert Swedish fid

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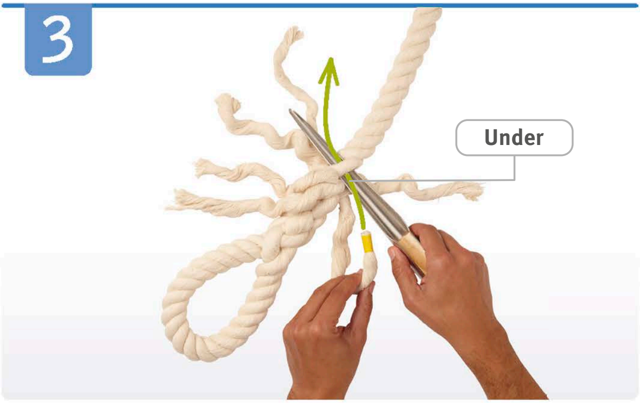

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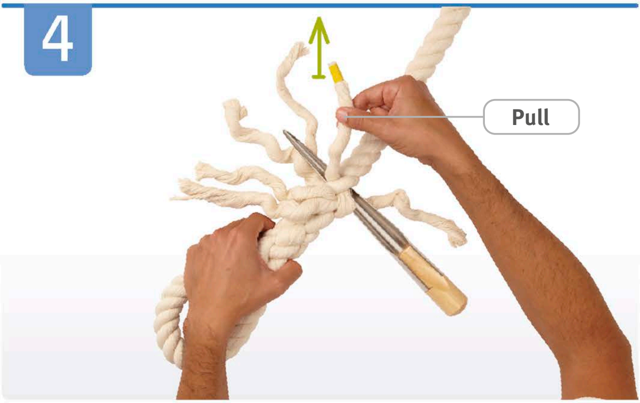

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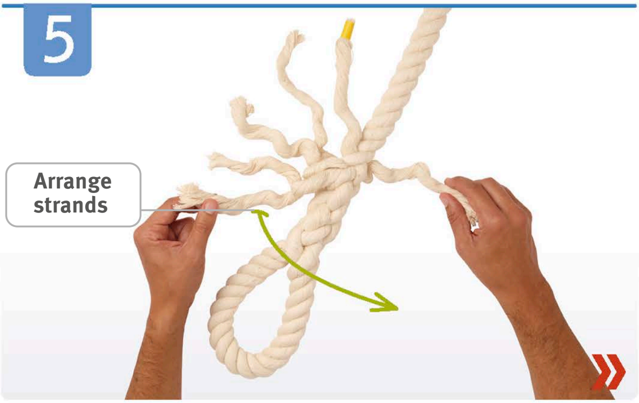
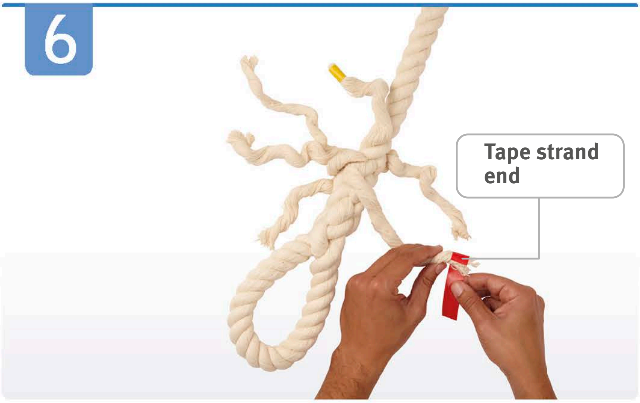
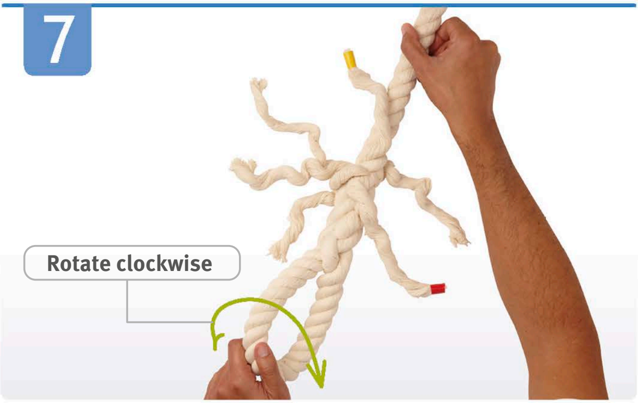

Arrange strands

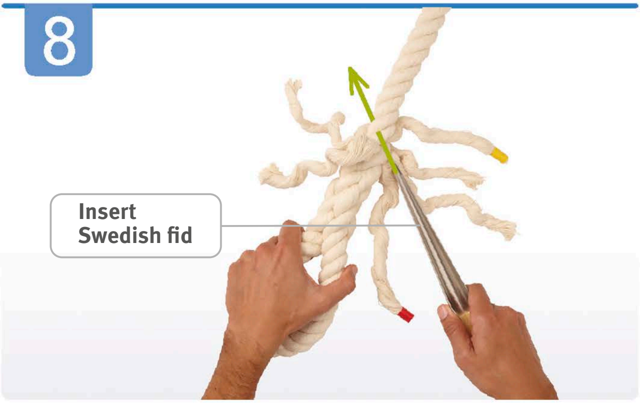
6


Tape strand end

7


Rotate clockwise

8


Insert Swedish fid

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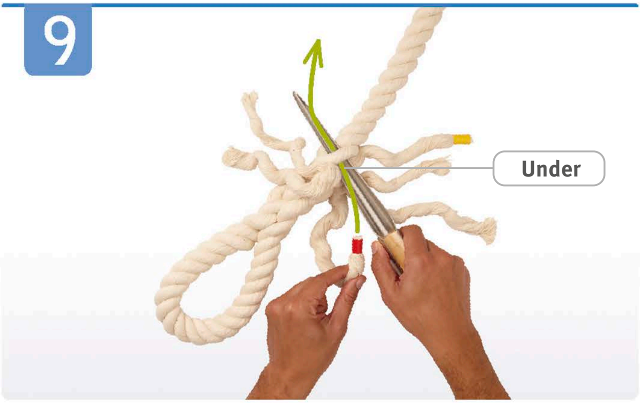

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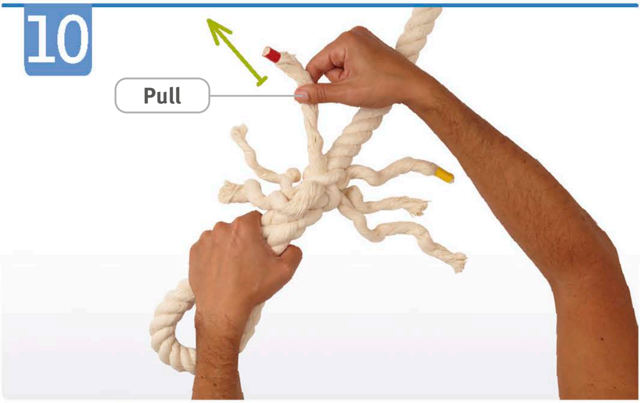

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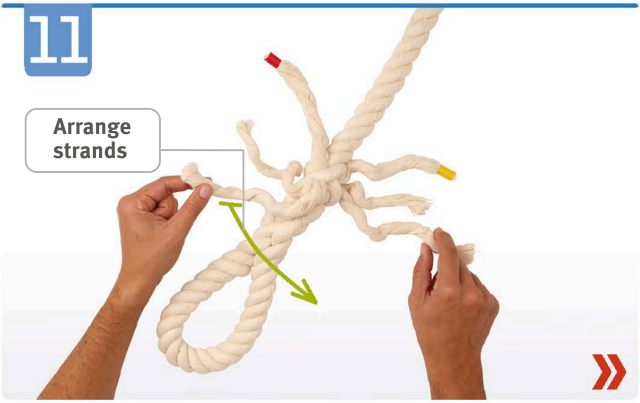
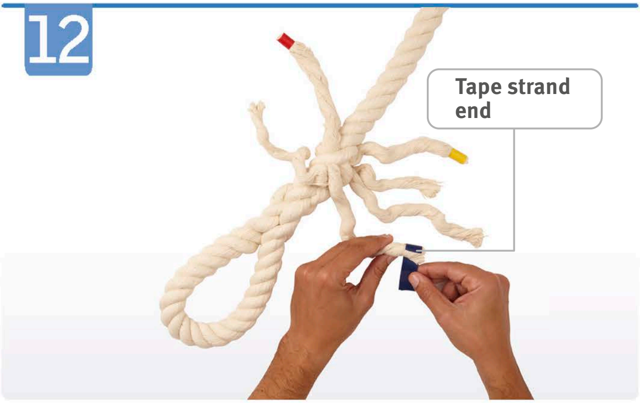
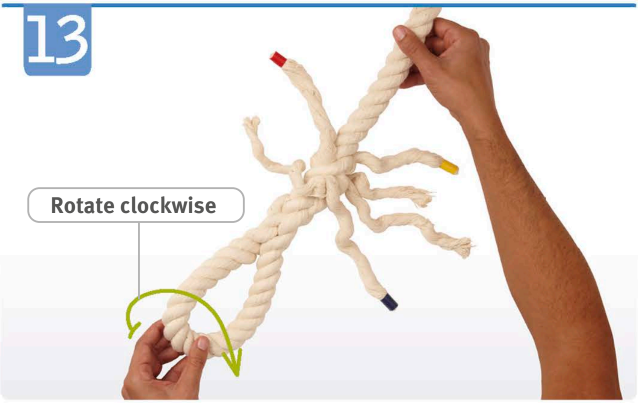

Arrange strands

12



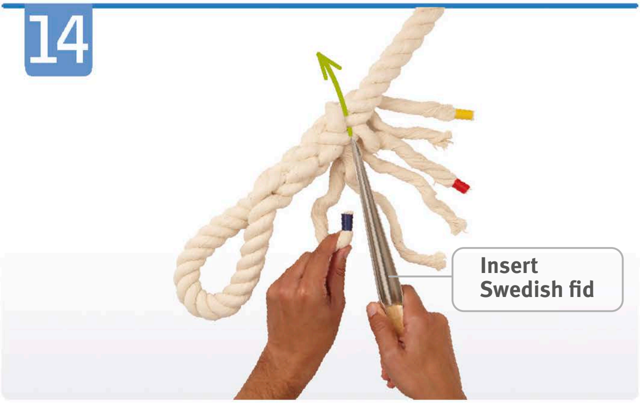
Tape strand end

13



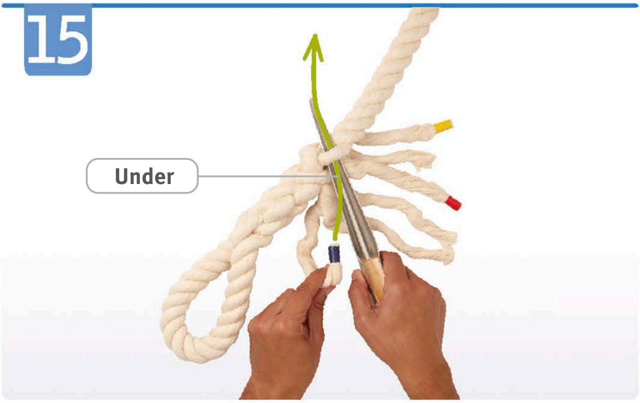
Rotate clockwise

14



Insert Swedish fid

15



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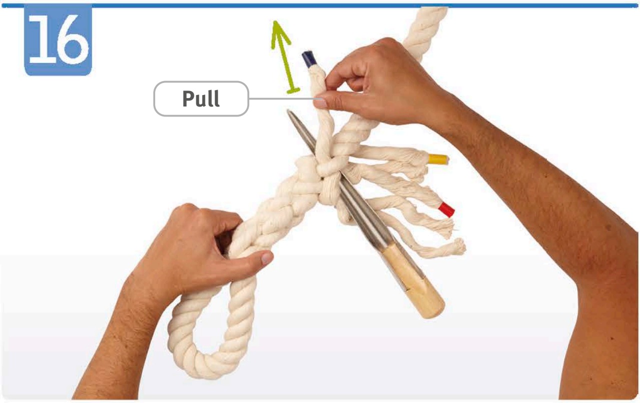

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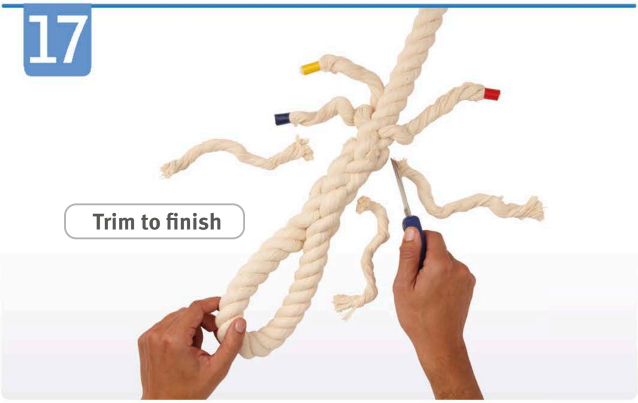

Trim to finish

BEST FOR ...
Horses

Equestrians use knots for a multitude of reasons such as tethering horses safely, fixing clips, tying straps and webbing, and securing ropes around a horse’s neck or on the horn of a saddle.

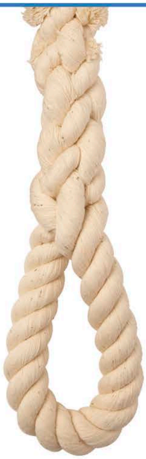
Eye Splice

» pp.342–46

✓ Offers a neat and reliable method for making an eye through which to attach clips to lead ropes.

✓ Should be formed at the end of ropes that are used for pulling, dragging, or hoisting.

✓ Can also be used to make a halter.

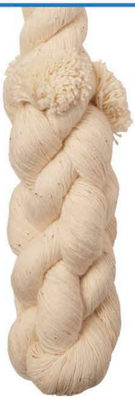


Similar knots:
» pp.334–41
Back Splice

Back Splice » p.334–41

✓ Also known as an End Splice, this is a permanent fastening that stops the end of a rope from coming undone.

✓ Can also be used to make a grip at the end of a rope.

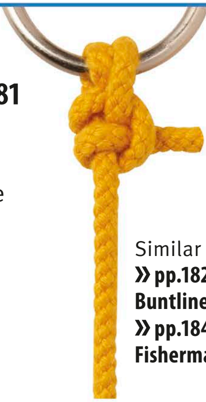


Similar knots:
» pp.342–46
Eye Splice

Round Turn and Two Half Hitches » pp.180–81

✓ A quick, safe method for tying up a horse – the round turn means it can handle a large amount of strain.

✓ A reasonably easy hitch to untie, even if a large amount of strain has been placed on it.



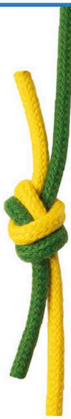
Similar knots:
» pp.182–83
Buntline Hitch
» pp.184–85
Fisherman's Bend

Water Knot » pp.172–73

✓ An effective method for linking flat strapping and webbing of the type found on a horse's bridle.

✓ Can also be used to make an emergency repair to broken reins.

✓ A knot that is both strong and reliable.

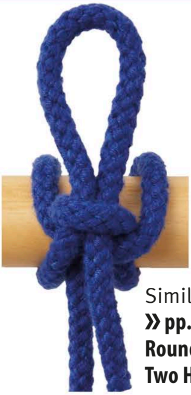


Similar knots:
» pp.157–59
Fisherman's Knot

Highwayman's Hitch » pp.201–02

✓ A quick-release hitch that is good for temporarily tethering a horse to a ring or rail.

✗ Comes undone easily, so the hitch must always be pulled tight, with a good locking bight, before leaving the horse.



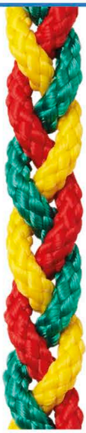
Similar knots:
» pp.180–81 Round Turn and Two Half Hitches

Three-Strand Flat Plait » pp.292–93

✓ Simple and quick to tie, this plait can be made as long as desired.

✓ When secured with a rubber plaiting band it can be used to dress a horse's mane or tail.

✓ A ribbon, held in place with a plaiting band, can be added for extra decoration.

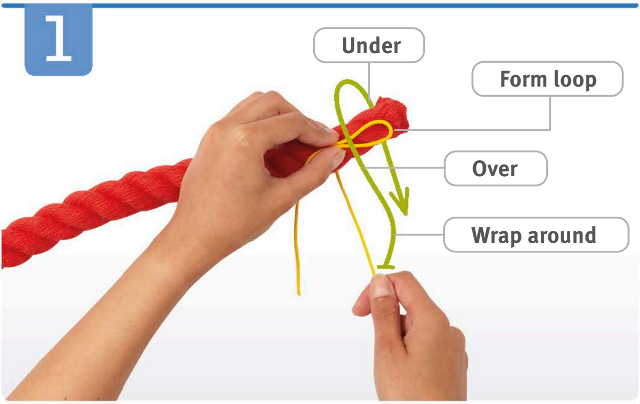


Similar knots:
» pp.294–95 Four-Strand Flat Plait
» pp.296–97 Five-Strand Flat Plait

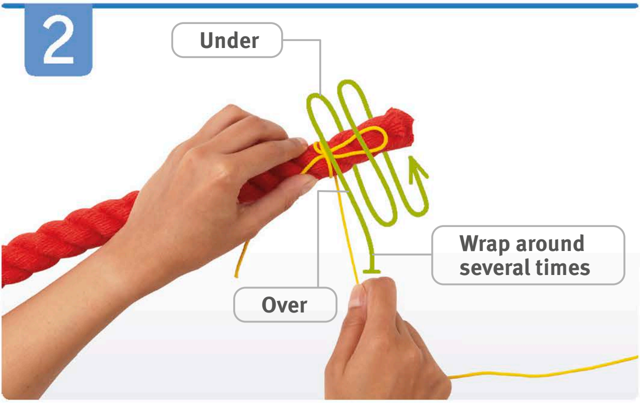
Common Whipping

- Prevents the end of a rope from fraying.
- The simplest of all whippings.
- Waxing the twine makes it easier to pull the loop under the whipping turns.
- To finish, use a Marlinespike Hitch (*see pp.199–200*) to prevent fine twine from cutting your fingers.

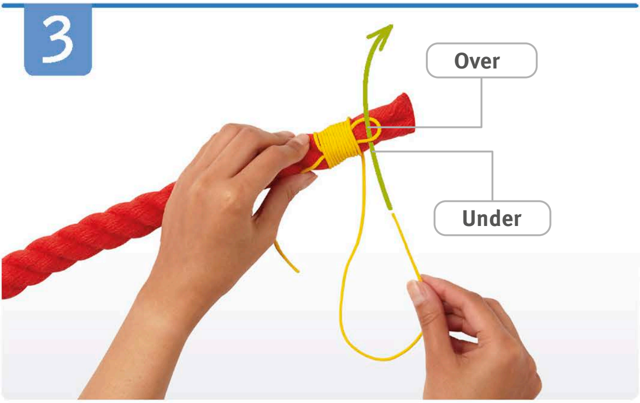
1


Under
Form loop
Over
Wrap around

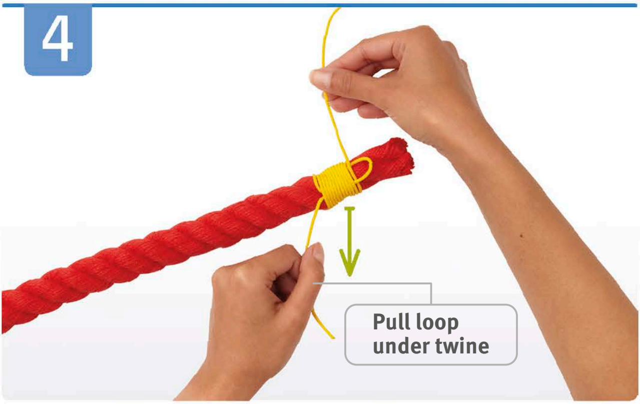
2


Under
Wrap around several times
Over

3

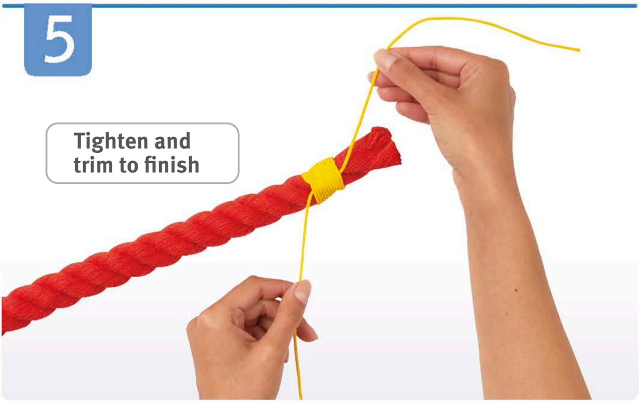


4



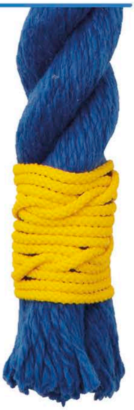
Pull loop under twine

5



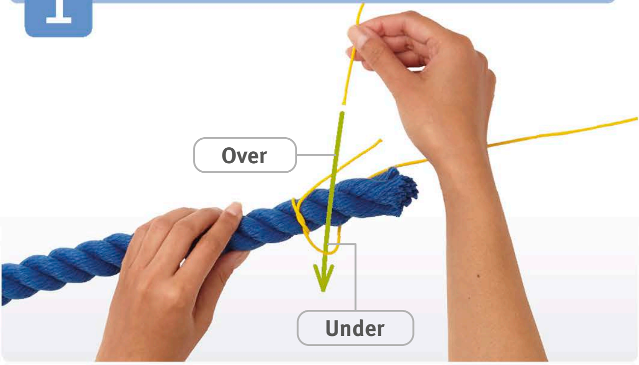
Tighten and trim to finish

French Whipping

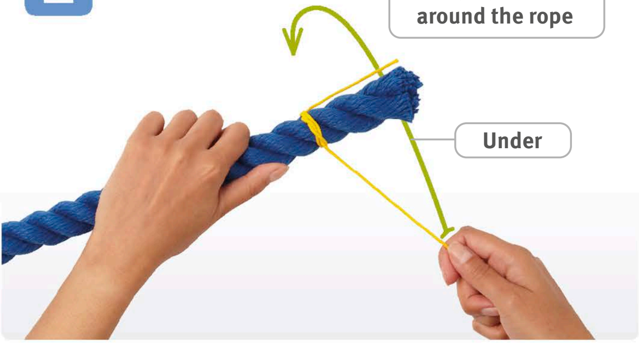


- A decorative whipping used to stop a rope end from unravelling.
- Also used over railings or tool handles to provide a firm grip.
- Formed using a series of half hitches (*see p.23*) tied in the same direction.
- Secure the twine around the rope with an Overhand Knot (*see pp.28–29*) before starting.

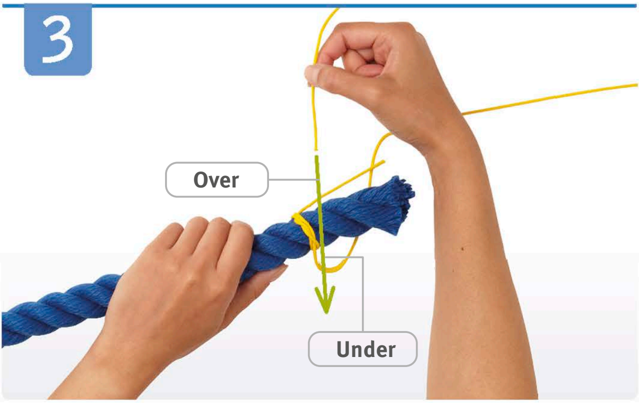
1 SECURE TWINE WITH AN OVERHAND KNOT (»pp.28–29)



2

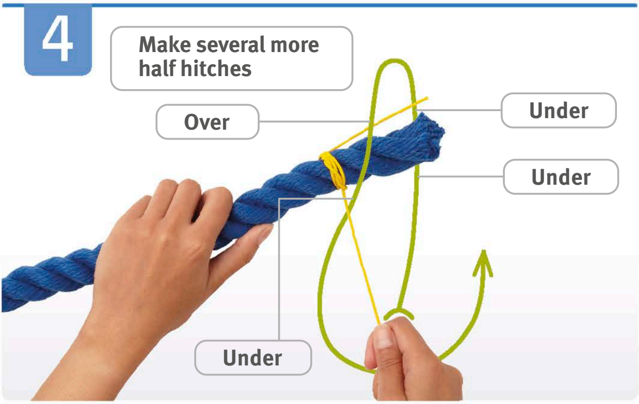

Tie a half hitch around the rope
Under

3

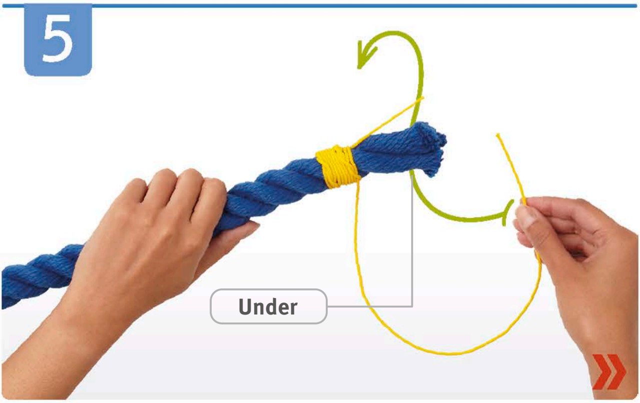


4

Make several more half hitches


Over
Under
Under
Under

5



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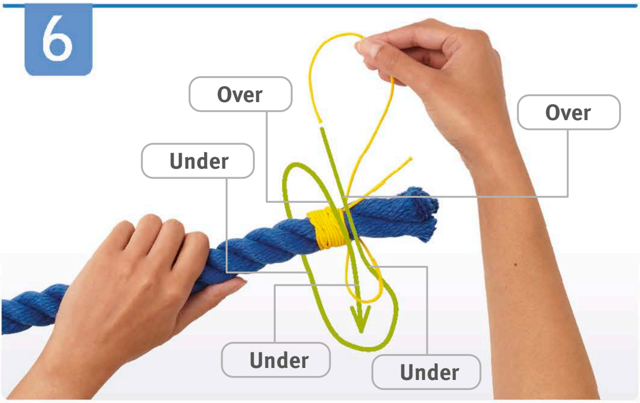
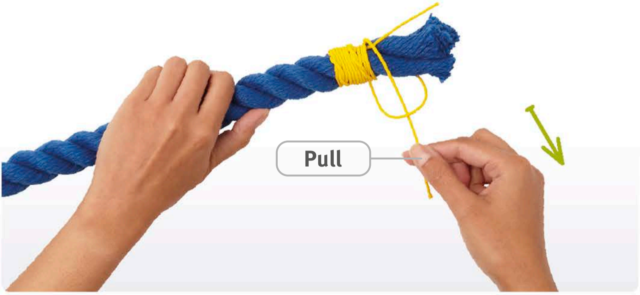
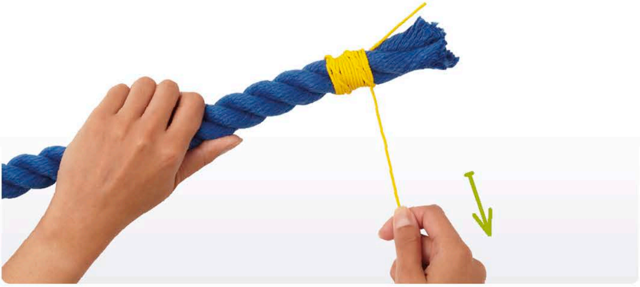

Over
Over
Under
Under
Under

7

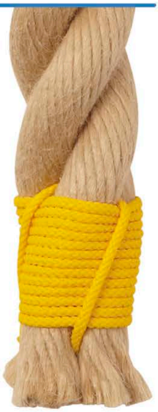


8

Tighten and trim to finish

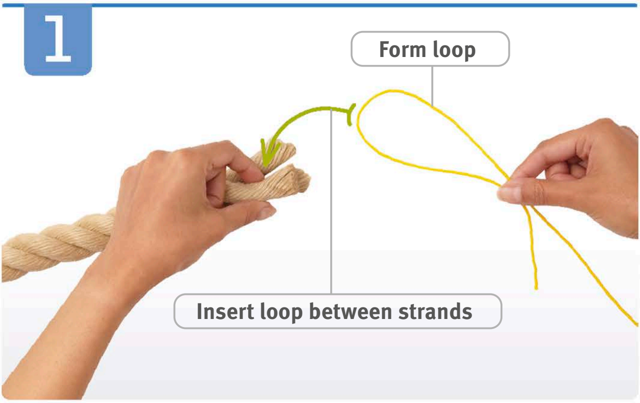


Sailmaker's Whipping

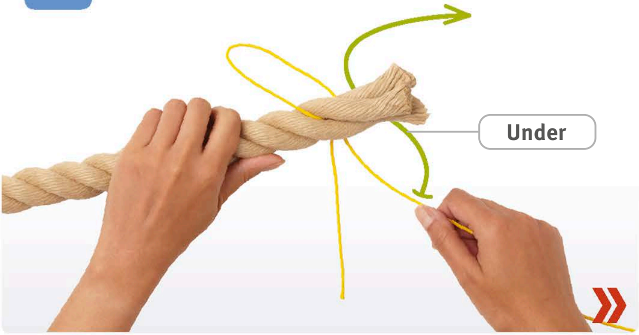


- The most secure finish for the end of a three-strand rope.
- Can only be made at the end of the rope.
- Whipping should be roughly one-and-a-half times the diameter of the rope.

1

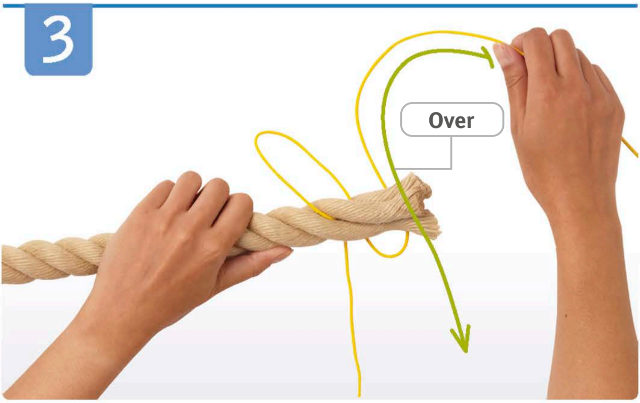

Form loop
Insert loop between strands

2



»

3



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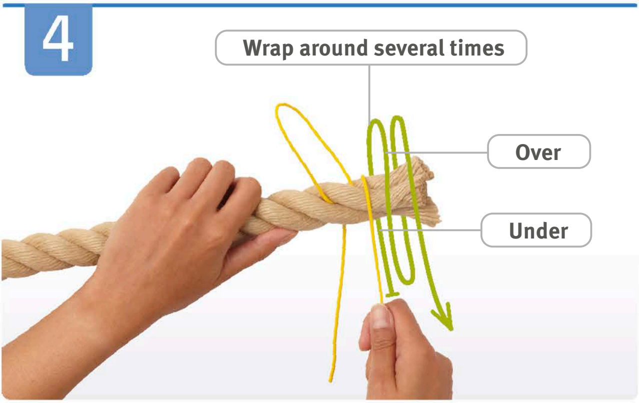
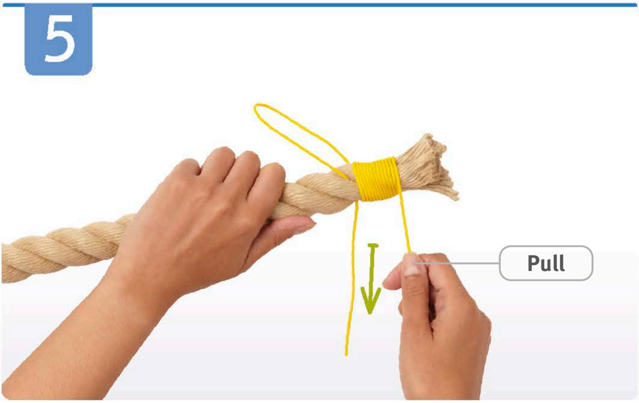

Wrap around several times
Over
Under

5



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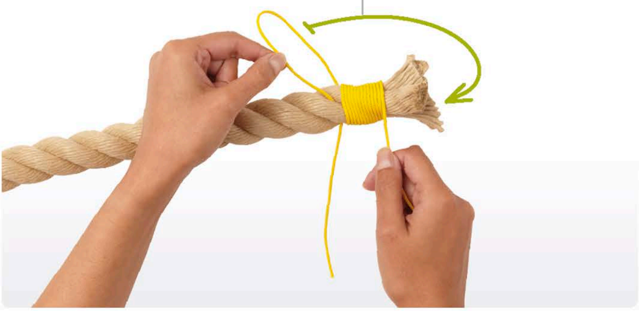
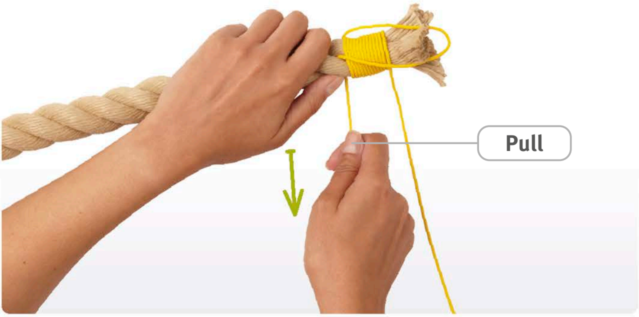
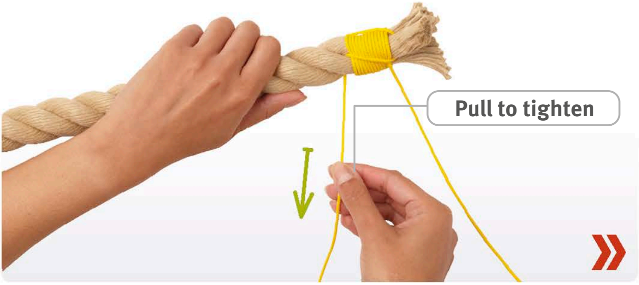

Insert loop between strands

7

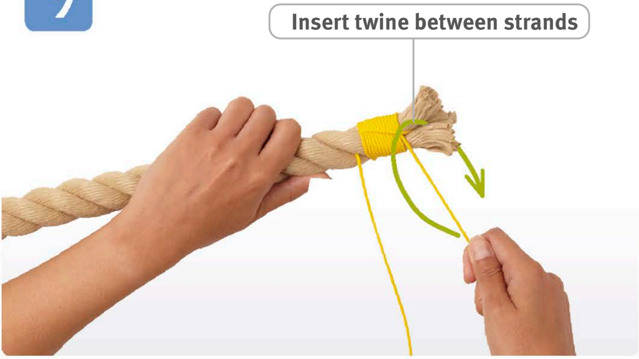

Pull

8

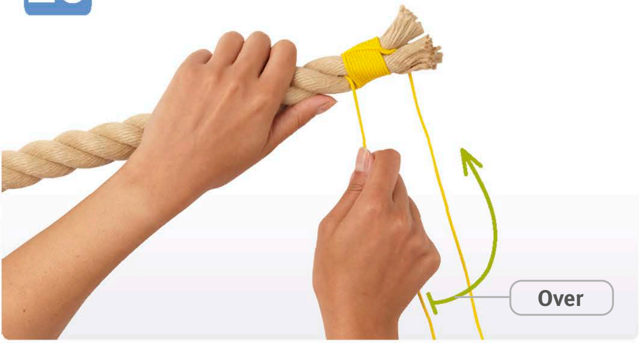

Pull to tighten

»

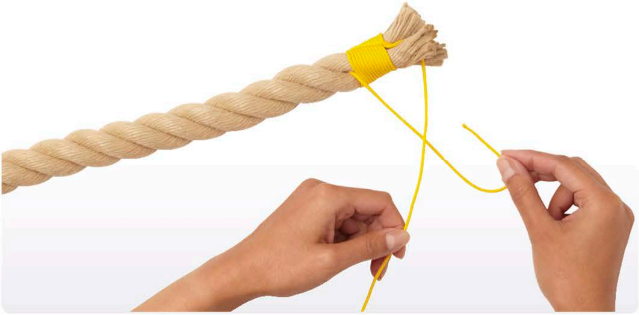
9


Insert twine between strands

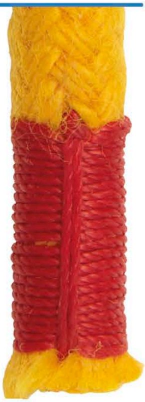
10



11 FINISH WITH A REEF KNOT (»pp.85–86)

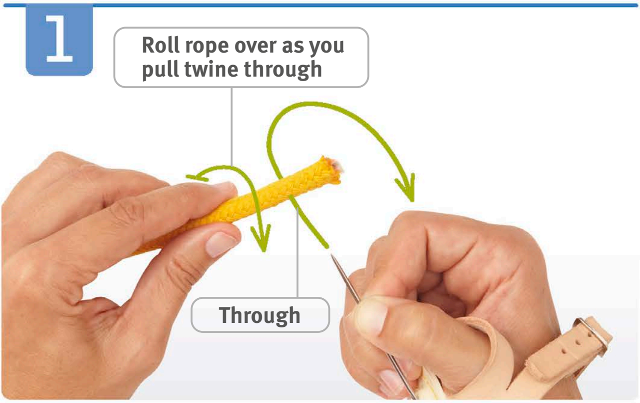


Palm and Needle Whipping

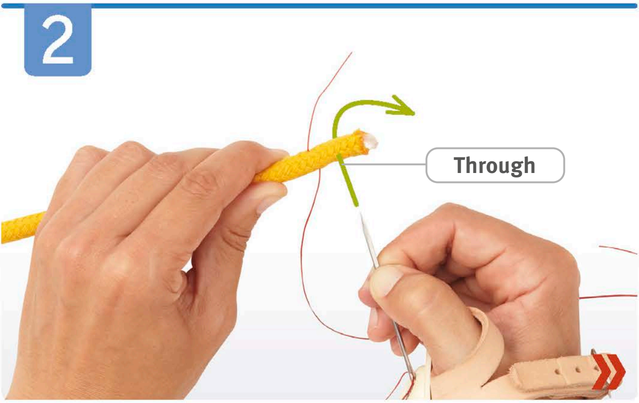


- The perfect whipping to secure a braided rope.
- Can be used in the middle of a rope.
- Requires a palm and a sailmaker's needle (*see p.19*).
- Preferred by sailmakers.

1

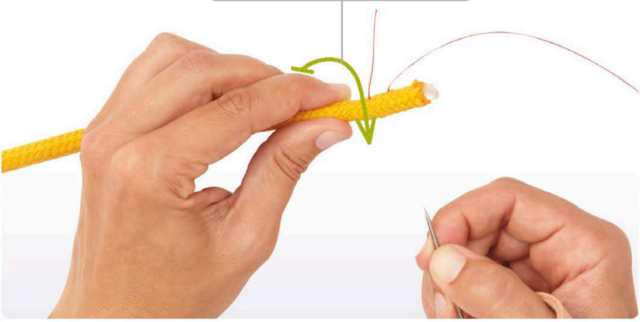

Roll rope over as you pull twine through
Through

2



3

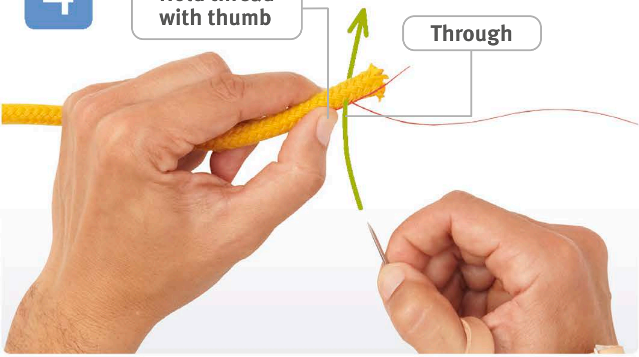
Roll rope towards body



4

Hold thread with thumb

Through

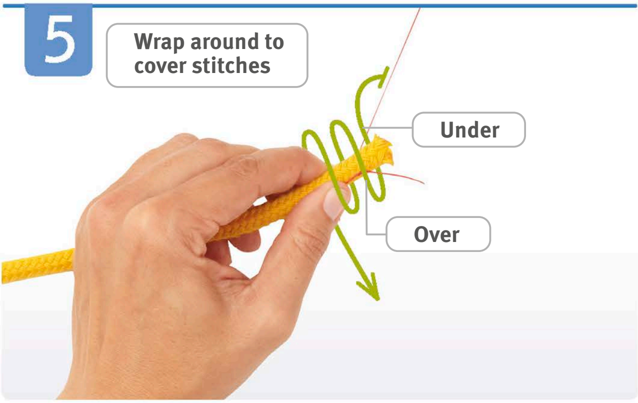


5

Wrap around to cover stitches

Under

Over



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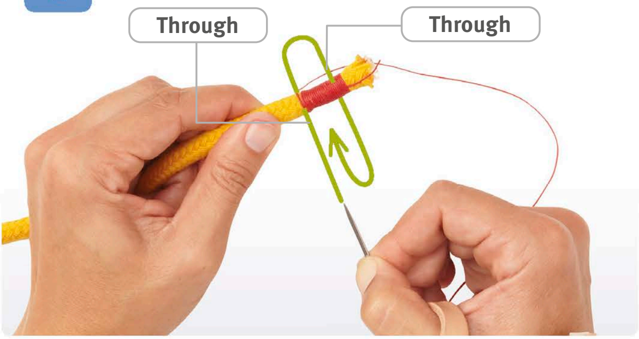
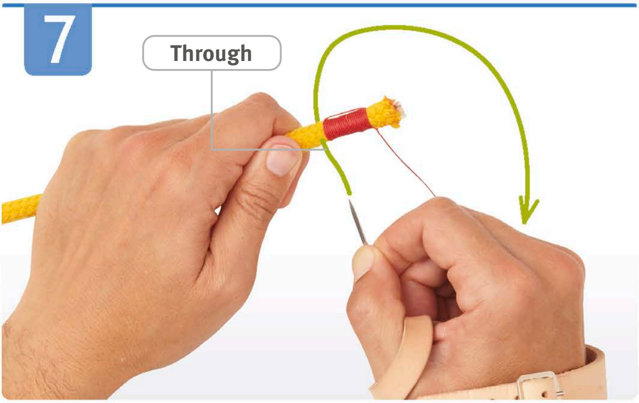

Through
Through

7



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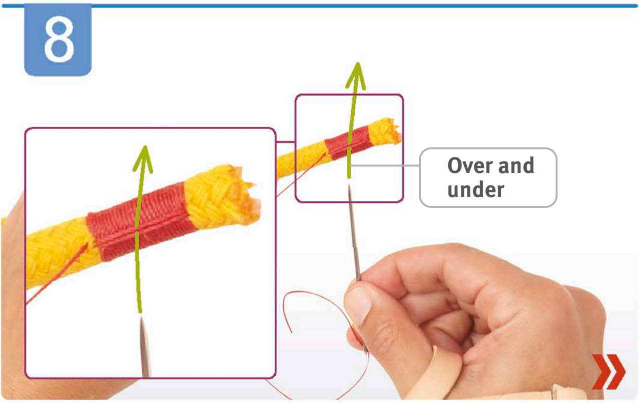
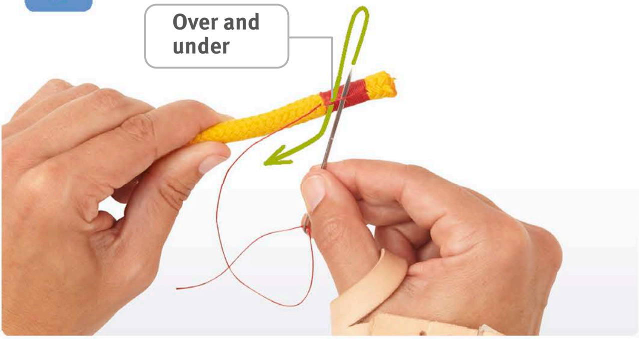
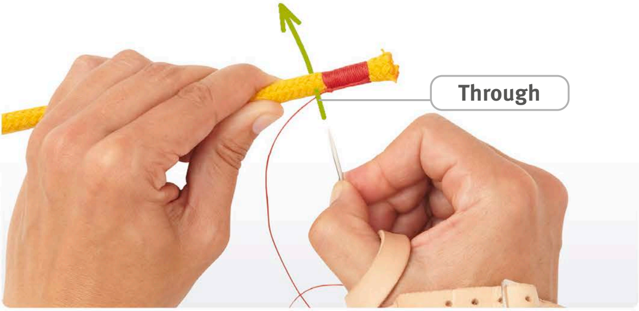

Over and under

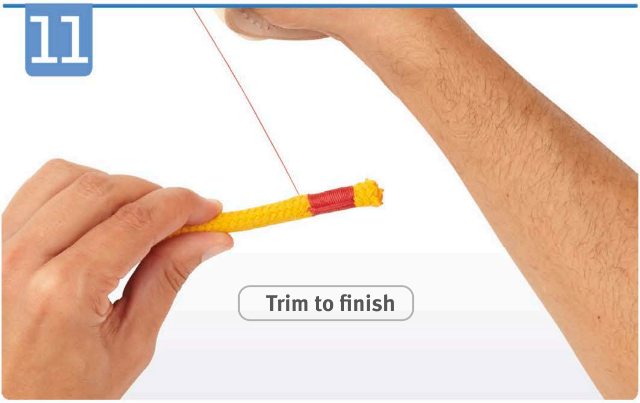
9


Over and under

10

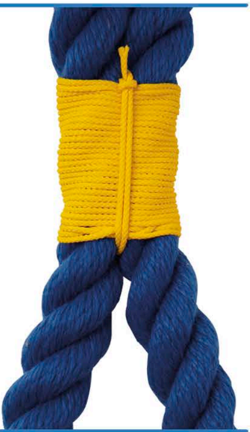


11

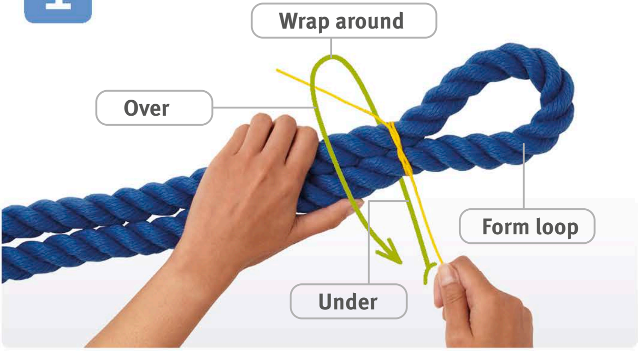

Trim to finish

Seizing

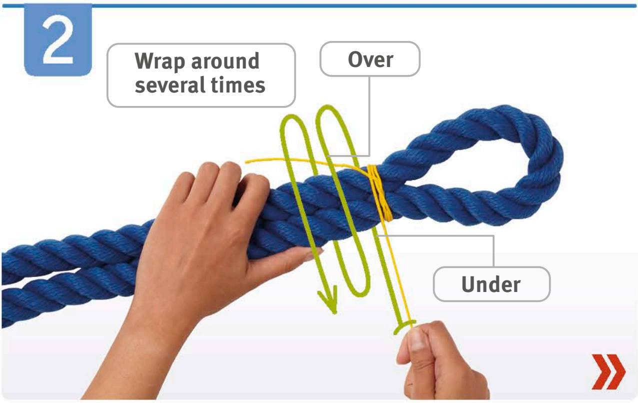
- A tightly compressed whipping that can be used to bind two parts of a rope together.
- Historically used on the heavy fixed rigging found on sailing ships.
- Must be tied tightly and evenly.



1 SECURE TWINE WITH A CONSTRICTOR KNOT (»pp.109–10)

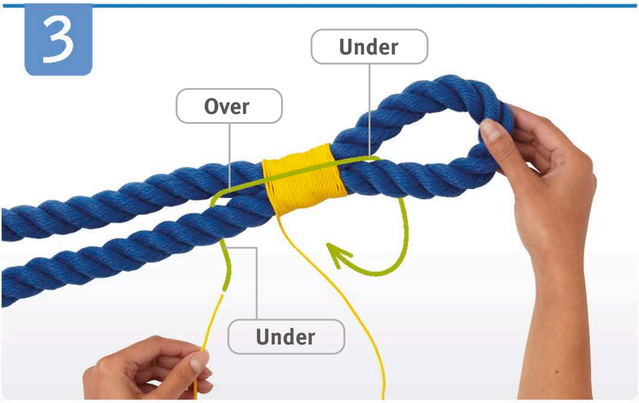

Wrap around
Over
Form loop
Under

2

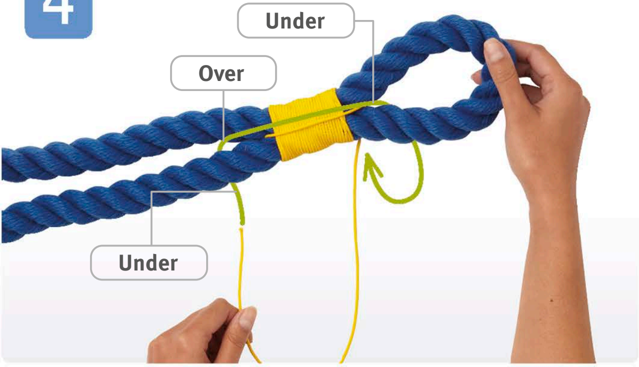

Wrap around several times
Over
Under

»

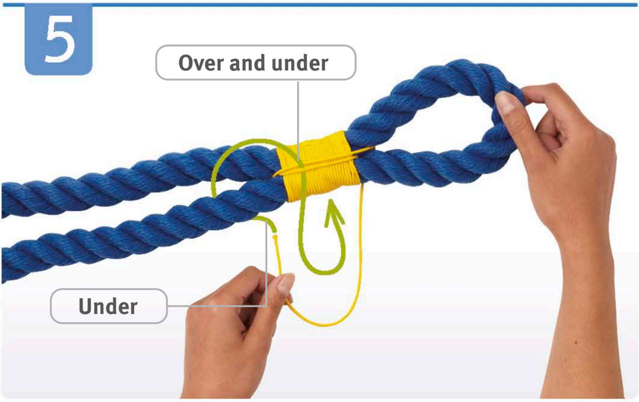
3


Under
Over
Under

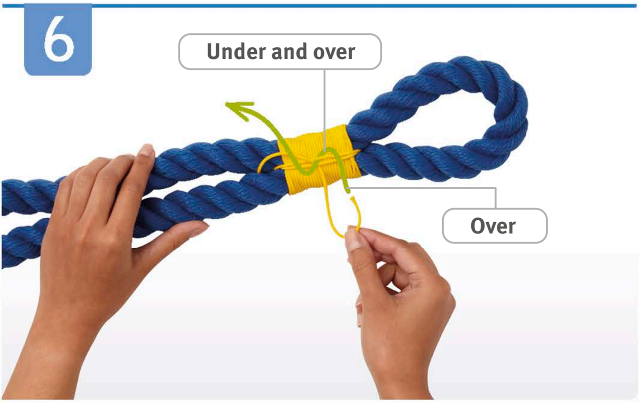
4


Under
Over
Under

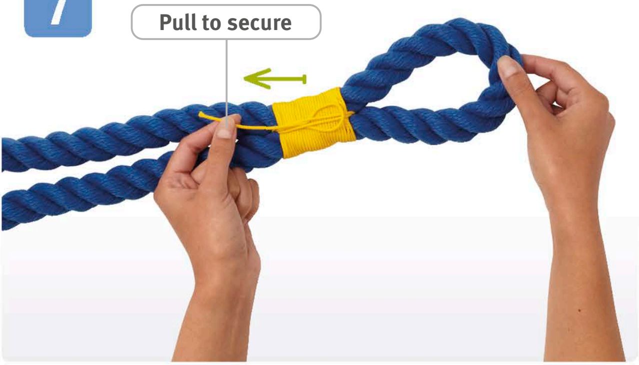
5


Over and under
Under

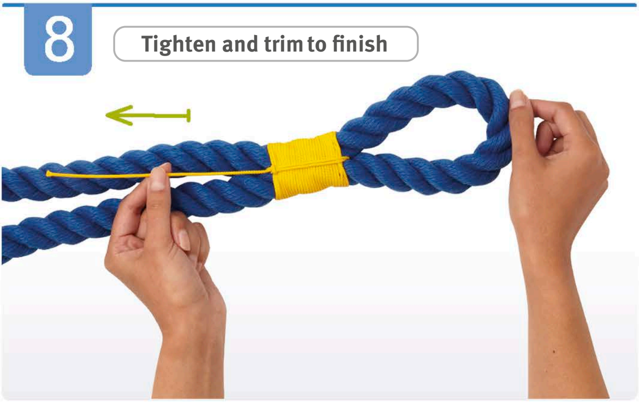
6


Under and over
Over

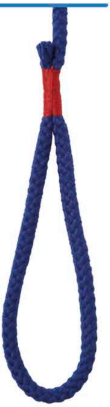
7


Pull to secure

8

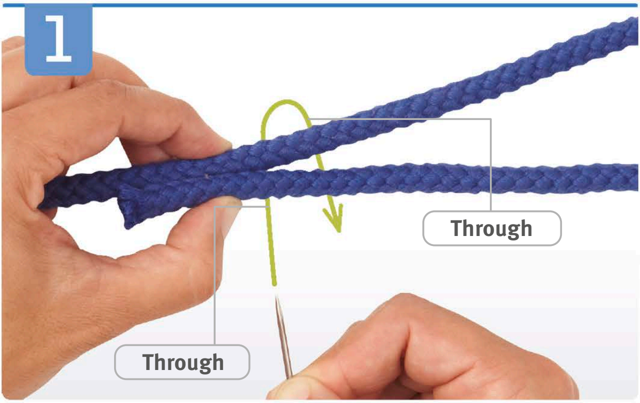

Tighten and trim to finish

Stitch and Seize

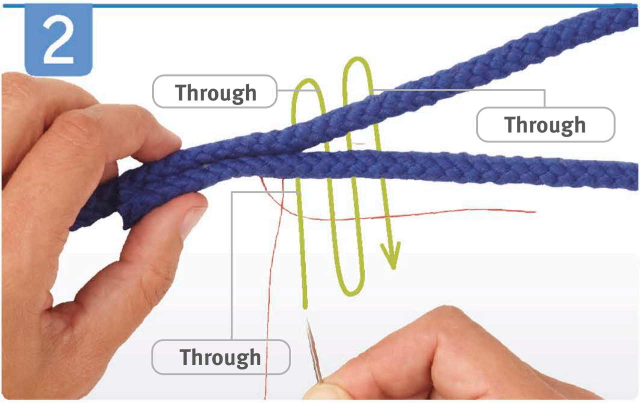


- Used to make a permanent eye on the end of a braided rope.
- Requires a palm and a sailmaker's needle (*see p.19*).
- Stitch first, then seize over the stitches.
- Make a locking stitch along the seizing halfway through the process for additional security.

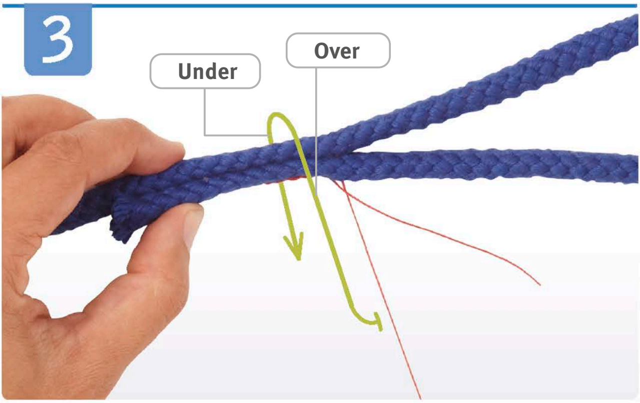
1


Through
Through

2


Through
Through
Through

3



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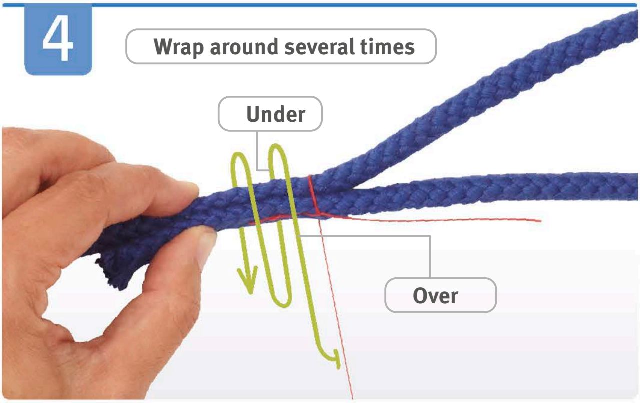
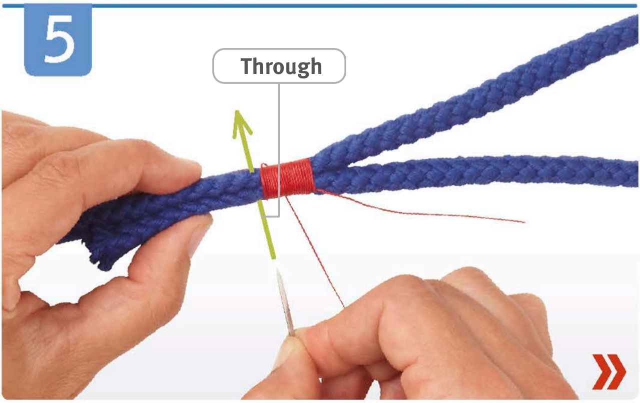
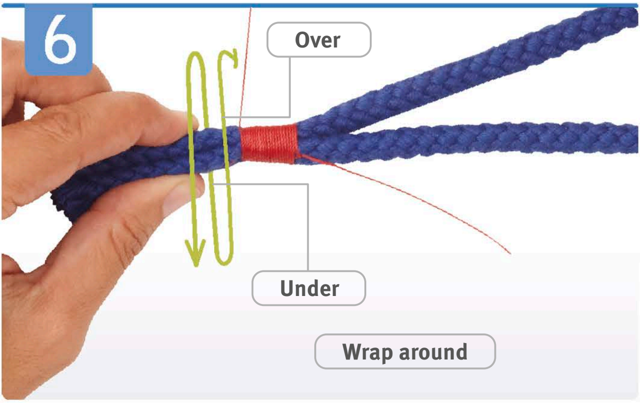
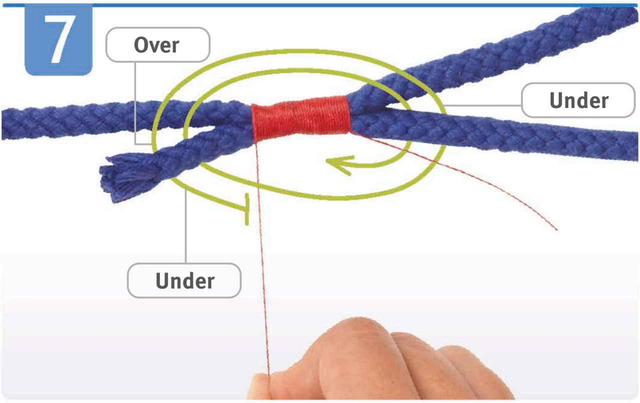
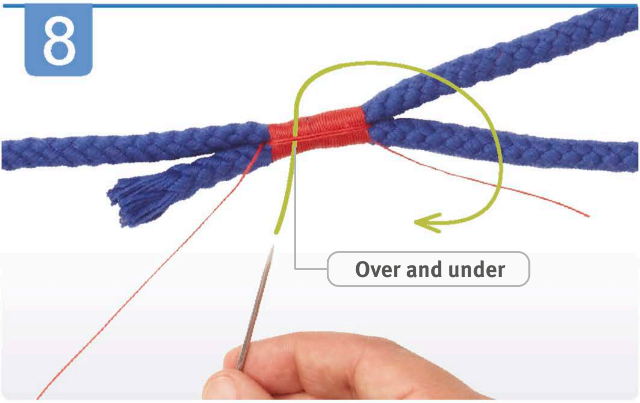

Wrap around several times
Under
Over

5

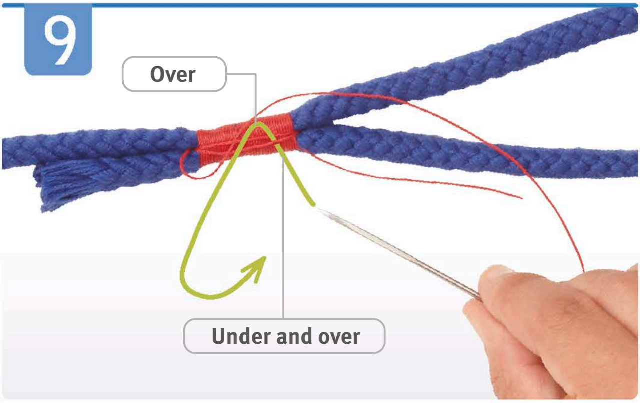



6
Over
Under
Wrap around

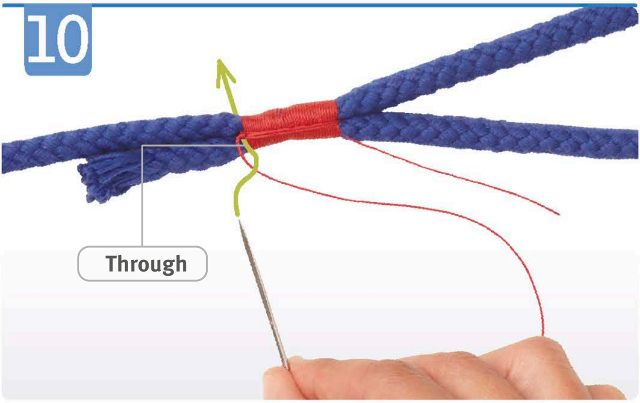

7
Over
Under
Under


8
Over and under

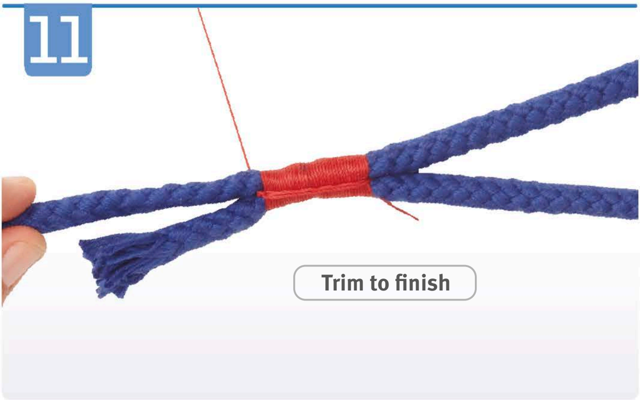
9


Over
Under and over

10



11


Trim to finish

Glossary

As well as explaining the knotting terms used in this book, this glossary also features some specialized climbing and sailing terms.

Belay To secure one climber to another with a rope.

Bight **1** The part of a rope that is folded back on itself to form a narrow loop. **2** The curved side of a knot.

Blood knot Knot consisting of many turns, used in angling or climbing.

Boat hook In sailing, a pole with a hook on one end, used to help catch hold of a rope or ring.

Body The tied part of a knot.

Braid Strands or yarns woven or plaited together in a regular pattern.

Braided rope Rope consisting of multiple woven or plaited strands or yarns.

Breaking rope The part of a rope that controls the amount of slip of a knot, and that restricts the amount of slip a knot has during a fall.

Chafe The frayed part of a rope, caused by abrasion against a rough surface.

Cleat On a boat, a fitting around which a rope is wound to secure it.

Coil A rope that has been placed into a neat series of circles or loops, often for storage purposes.

Cordage The general term for rope.

Core The inner part of a rope which is made from parallel, twisted, or braided rope fibres.

Crossing turn A circle of rope made by crossing one end of a rope over itself.

Eve **1** A hole in a knot. **2** The hole inside a circle of rope. **3** A permanent loop fabricated at the end of a piece of rope. **4** The opening at the end of a fishing hook, through which a line can be threaded.

Fid A sharp, pointed wooden tool used to separate strands of rope.

Frapping turns Extra turns made across lashing, whipping, or seizing turns.

Half hitch A circle of rope wound around an object or boat fitting. It is kept in place by placing one end of the rope across and at right angles to the other end.

Hard-laid rope Tightly twisted, three-strand rope designed to be very stiff and firm.

Heaving line The light line attached to a mooring rope that is thrown from a boat and used to haul a mooring rope ashore.

Karabiner In climbing, a D-shaped or oval metal snaplink fitted with a locking device.

Laid rope A rope made by twisting strands of yarn together.

Large-diameter rope Rope of around 24mm diameter or more.

Lash; lashing To secure two or more adjacent or crossed poles by binding them with rope; the term for the binding itself.

Lashing turn A turn used to bind poles together, as part of a lashing.

Lay The direction in which the twists of the strands in a laid rope lie.

Lead The number of strands used to make a plait, used particularly in a Turk's Head knot.

Line A length of rope measuring less than 4mm in diameter.

Loaded rope The part of a rope that applies force to a climbing knot.

Loop A circle of rope made by placing two parts of a rope together, without crossing them over.

Marlinsepike A slim, pointed, metal spike that is commonly used to separate strands of rope.

Netting needle A pointed tool used for manipulating fine line when making a net.

Palm A glovelike, leather strap containing a metal plate and worn on the hand, to protect the palm while pushing a sailmaker's needle through a rope.

Rigger Ships' rigging manufacturer.

Rigging Ropes and spars designed to control the sails of a ship.

Round turn A complete circle, followed by a half circle, made with a length of rope around an object.

Seize; seizing The process of joining two ropes, or two lengths of a rope, by binding them with twine; the term for the binding itself.

Sheath A covering made from woven strands intended to protect the core of a rope.

Sheet Rope that controls a sail.

Shock cord Rope with a high degree of stretch, made from a rubber elastic core covered by a braided protective sheath of nylon fibres, also known as elasticated cord.

Sling A continuous circle made from rope or tape that can be made by tying the ends of the material with a Fisherman's Knot or a Water Knot. Also referred to as a strop.

Small-diameter rope Rope with a diameter of approximately 4–8mm.

Spade end The flat end of a hook, with no eye for threading line.

Standing part The length of a rope not used or in reserve during the tying of a knot.

Swedish fid A hollow, pointed, metal-bladed tool for tucking strand ends when splicing stiff rope.

Tape In climbing, the flat, woven webbing used to make slings.

Thin line A piece of line measuring less than 2mm in diameter.

Three-strand rope Rope consisting of three strands twisted together.

Tuck To pass one part of a rope underneath another part of itself.

Turn To pass a rope around one side of an object.

Unlaid rope A rope separated into its component strands.

Whipping turn The turn made around the end of a length of rope, as part of a whipping.

Whipping twine A type of thin line, sometimes made from nylon, that is used to bind the end of a rope.

Working end When tying a knot, the end of a rope used.

Working load The maximum load to which a rope should be subjected.

Yarn Natural or synthetic fibres twisted into threads.

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Acknowledgments

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